

# Nigel S Scrutton

## List of Publications by Citations

**Source:** <https://exaly.com/author-pdf/4398181/nigel-s-scrutton-publications-by-citations.pdf>

**Version:** 2024-04-27

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

401  
papers

13,034  
citations

58  
h-index

91  
g-index

425  
ext. papers

14,647  
ext. citations

7.3  
avg, IF

6.67  
L-index

#	Paper	IF	Citations
401	Redesign of the coenzyme specificity of a dehydrogenase by protein engineering. <i>Nature</i> , <b>1990</b> , 343, 38-43	50.4	699
400	Atomic description of an enzyme reaction dominated by proton tunneling. <i>Science</i> , <b>2006</b> , 312, 237-41	33.3	278
399	Conversion of alcohols to enantiopure amines through dual-enzyme hydrogen-borrowing cascades. <i>Science</i> , <b>2015</b> , 349, 1525-9	33.3	268
398	Enzymatic H-transfer requires vibration-driven extreme tunneling. <i>Biochemistry</i> , <b>1999</b> , 38, 3218-22	3.2	218
397	Good vibrations in enzyme-catalysed reactions. <i>Nature Chemistry</i> , <b>2012</b> , 4, 161-8	17.6	216
396	Cation-pi bonding and amino-aromatic interactions in the biomolecular recognition of substituted ammonium ligands. <i>Biochemical Journal</i> , <b>1996</b> , 319 ( Pt 1), 1-8	3.8	215
395	Light-induced structural changes in a full-length cyanobacterial phytochrome probed by time-resolved X-ray scattering. <i>Communications Biology</i> , <b>2019</b> , 2, 1	6.7	196
394	Covalent attachment of flavin adenine dinucleotide (FAD) and flavin mononucleotide (FMN) to enzymes: the current state of affairs. <i>Protein Science</i> , <b>1998</b> , 7, 7-20	6.3	170
393	New cofactor supports $\alpha$ -unsaturated acid decarboxylation via 1,3-dipolar cycloaddition. <i>Nature</i> , <b>2015</b> , 522, 497-501	50.4	156
392	Biotransformation of explosives by the old yellow enzyme family of flavoproteins. <i>Applied and Environmental Microbiology</i> , <b>2004</b> , 70, 3566-74	4.8	154
391	UbiX is a flavin prenyltransferase required for bacterial ubiquinone biosynthesis. <i>Nature</i> , <b>2015</b> , 522, 502-504	50.4	136
390	What's in a covalent bond? On the role and formation of covalently bound flavin cofactors. <i>FEBS Journal</i> , <b>2009</b> , 276, 3405-27	5.7	127
389	Discovery, Characterisation, Engineering and Applications of Ene Reductases for Industrial Biocatalysis. <i>ACS Catalysis</i> , <b>2019</b> , 8, 3532-3549	13.1	124
388	A new conceptual framework for enzyme catalysis. Hydrogen tunnelling coupled to enzyme dynamics in flavoprotein and quinoprotein enzymes. <i>FEBS Journal</i> , <b>2002</b> , 269, 3096-102		114
387	Better than Nature: Nicotinamide Biomimetics That Outperform Natural Coenzymes. <i>Journal of the American Chemical Society</i> , <b>2016</b> , 138, 1033-9	16.4	108
386	New developments in 'ene'-reductase catalysed biological hydrogenations. <i>Current Opinion in Chemical Biology</i> , <b>2014</b> , 19, 107-15	9.7	106
385	Biodiversity of cytochrome P450 redox systems. <i>Biochemical Society Transactions</i> , <b>2005</b> , 33, 796-801	5.1	102

384	Extensive conformational sampling in a ternary electron transfer complex. <i>Nature Structural and Molecular Biology</i> , <b>2003</b> , 10, 219-25	17.6	102
383	An automated Design-Build-Test-Learn pipeline for enhanced microbial production of fine chemicals. <i>Communications Biology</i> , <b>2018</b> , 1, 66	6.7	97
382	Biocatalysis with thermostable enzymes: structure and properties of a thermophilic 'ene'-reductase related to old yellow enzyme. <i>ChemBioChem</i> , <b>2010</b> , 11, 197-207	3.8	94
381	Dynamics driving function: new insights from electron transferring flavoproteins and partner complexes. <i>FEBS Journal</i> , <b>2007</b> , 274, 5481-504	5.7	93
380	Kinetic studies of the mechanism of carbon-hydrogen bond breakage by the heterotetrameric sarcosine oxidase of <i>Arthrobacter</i> sp. 1-IN. <i>Biochemistry</i> , <b>2000</b> , 39, 1189-98	3.2	93
379	Promoting motions in enzyme catalysis probed by pressure studies of kinetic isotope effects. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2007</b> , 104, 507-12	11.5	92
378	Crystal structure of pentaerythritol tetranitrate reductase: "flipped" binding geometries for steroid substrates in different redox states of the enzyme. <i>Journal of Molecular Biology</i> , <b>2001</b> , 310, 433-47	6.5	92
377	Building a global alliance of biofoundries. <i>Nature Communications</i> , <b>2019</b> , 10, 2040	17.4	91
376	Structural basis of kynurenine 3-monooxygenase inhibition. <i>Nature</i> , <b>2013</b> , 496, 382-5	50.4	90
375	The dimeric form of flavocytochrome P450 BM3 is catalytically functional as a fatty acid hydroxylase. <i>FEBS Letters</i> , <b>2005</b> , 579, 5582-8	3.8	90
374	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. <i>Journal of Biological Chemistry</i> , <b>2003</b> , 278, 43973-82	5.4	90
373	Importance of barrier shape in enzyme-catalyzed reactions. Vibrationally assisted hydrogen tunneling in tryptophan tryptophylquinone-dependent amine dehydrogenases. <i>Journal of Biological Chemistry</i> , <b>2001</b> , 276, 6234-42	5.4	88
372	Flavocytochrome P450 BM3: an update on structure and mechanism of a biotechnologically important enzyme. <i>Biochemical Society Transactions</i> , <b>2005</b> , 33, 747-53	5.1	82
371	Structures of carboxylic acid reductase reveal domain dynamics underlying catalysis. <i>Nature Chemical Biology</i> , <b>2017</b> , 13, 975-981	11.7	80
370	Relaxation kinetics of cytochrome P450 reductase: internal electron transfer is limited by conformational change and regulated by coenzyme binding. <i>Biochemistry</i> , <b>2002</b> , 41, 4626-37	3.2	79
369	Structure-Based Insight into the Asymmetric Bioreduction of the C=C Double Bond of alpha,beta-Unsaturated Nitroalkenes by Pentaerythritol Tetranitrate Reductase. <i>Advanced Synthesis and Catalysis</i> , <b>2008</b> , 350, 2789-2803	5.6	78
368	Fast protein motions are coupled to enzyme H-transfer reactions. <i>Journal of the American Chemical Society</i> , <b>2013</b> , 135, 2512-7	16.4	76
367	Nuclear quantum tunneling in the light-activated enzyme protochlorophyllide oxidoreductase. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 3762-7	5.4	75

366	Stopped-flow kinetic studies of flavin reduction in human cytochrome P450 reductase and its component domains. <i>Biochemistry</i> , <b>2001</b> , 40, 1964-75	3.2	75
365	Production of propane and other short-chain alkanes by structure-based engineering of ligand specificity in aldehyde-deformylating oxygenase. <i>ChemBioChem</i> , <b>2013</b> , 14, 1204-8	3.8	74
364	Extensive domain motion and electron transfer in the human electron transferring flavoprotein.medium chain Acyl-CoA dehydrogenase complex. <i>Journal of Biological Chemistry</i> , <b>2004</b> , 279, 32904-12	5.4	73
363	Chemical aspects of amine oxidation by flavoprotein enzymes. <i>Natural Product Reports</i> , <b>2004</b> , 21, 722-30	5.1	73
362	Reductive and oxidative half-reactions of glutathione reductase from Escherichia coli. <i>Biochemistry</i> , <b>1994</b> , 33, 13888-95	3.2	72
361	Direct analysis of donor-acceptor distance and relationship to isotope effects and the force constant for barrier compression in enzymatic H-tunneling reactions. <i>Journal of the American Chemical Society</i> , <b>2010</b> , 132, 11329-35	16.4	70
360	The photochemical mechanism of a B12-dependent photoreceptor protein. <i>Nature Communications</i> , <b>2015</b> , 6, 7907	17.4	69
359	Kinetic and structural basis of reactivity of pentaerythritol tetranitrate reductase with NADPH, 2-cyclohexenone, nitroesters, and nitroaromatic explosives. <i>Journal of Biological Chemistry</i> , <b>2002</b> , 277, 21906-12	5.4	69
358	Evidence to support the hypothesis that promoting vibrations enhance the rate of an enzyme catalyzed H-tunneling reaction. <i>Journal of the American Chemical Society</i> , <b>2009</b> , 131, 17072-3	16.4	68
357	Deep tunneling dominates the biologically important hydride transfer reaction from NADH to FMN in morphinone reductase. <i>Journal of the American Chemical Society</i> , <b>2008</b> , 130, 7092-7	16.4	68
356	Towards synthesis of monoterpenes and derivatives using synthetic biology. <i>Current Opinion in Chemical Biology</i> , <b>2016</b> , 34, 37-43	9.7	66
355	Alpha-secondary isotope effects as probes of "tunneling-ready" configurations in enzymatic H-tunneling: insight from environmentally coupled tunneling models. <i>Journal of the American Chemical Society</i> , <b>2006</b> , 128, 14053-8	16.4	65
354	New insights into enzyme catalysis. Ground state tunnelling driven by protein dynamics. <i>FEBS Journal</i> , <b>1999</b> , 264, 666-71		65
353	Updated structure of Drosophila cryptochrome. <i>Nature</i> , <b>2013</b> , 495, E3-4	50.4	63
352	Channelling and formation of 'active' formaldehyde in dimethylglycine oxidase. <i>EMBO Journal</i> , <b>2003</b> , 22, 4038-48	13	63
351	Electron transfer in human cytochrome P450 reductase. <i>Biochemical Society Transactions</i> , <b>2003</b> , 31, 497-501	50.1	62
350	Proton tunneling in aromatic amine dehydrogenase is driven by a short-range sub-picosecond promoting vibration: consistency of simulation and theory with experiment. <i>Journal of Physical Chemistry B</i> , <b>2007</b> , 111, 2631-8	3.4	61
349	The human apoptosis-inducing protein AMID is an oxidoreductase with a modified flavin cofactor and DNA binding activity. <i>Journal of Biological Chemistry</i> , <b>2005</b> , 280, 30735-40	5.4	61

348	Crystal structure of bacterial morphinone reductase and properties of the C191A mutant enzyme. <i>Journal of Biological Chemistry</i> , <b>2002</b> , 277, 30976-83	5.4	61
347	Deuterium isotope effects during carbon-hydrogen bond cleavage by trimethylamine dehydrogenase. Implications for mechanism and vibrationally assisted hydrogen tunneling in wild-type and mutant enzymes. <i>Journal of Biological Chemistry</i> , <b>2001</b> , 276, 24581-7	5.4	60
346	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. <i>Biochemical Journal</i> , <b>2002</b> , 367, 19-30	3.8	60
345	Hydrogen tunnelling in enzyme-catalysed H-transfer reactions: flavoprotein and quinoprotein systems. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2006</b> , 361, 1375-86	5.8	59
344	QM/MM studies show substantial tunneling for the hydrogen-transfer reaction in methylamine dehydrogenase. <i>Journal of the American Chemical Society</i> , <b>2001</b> , 123, 8604-5	16.4	59
343	Catalytic mechanism of cofactor-free dioxygenases and how they circumvent spin-forbidden oxygenation of their substrates. <i>Journal of the American Chemical Society</i> , <b>2015</b> , 137, 7474-87	16.4	57
342	Proton-coupled electron transfer in the catalytic cycle of <i>Alcaligenes xylosoxidans</i> copper-dependent nitrite reductase. <i>Biochemistry</i> , <b>2011</b> , 50, 4121-31	3.2	57
341	A site-saturated mutagenesis study of pentaerythritol tetranitrate reductase reveals that residues 181 and 184 influence ligand binding, stereochemistry and reactivity. <i>ChemBioChem</i> , <b>2011</b> , 12, 738-49	3.8	57
340	Nature of the energy landscape for gated electron transfer in a dynamic redox protein. <i>Journal of the American Chemical Society</i> , <b>2010</b> , 132, 9738-45	16.4	57
339	Hydrogen tunneling in quinoproteins. <i>Archives of Biochemistry and Biophysics</i> , <b>2004</b> , 428, 41-51	4.1	57
338	Vertebrate Cryptochromes are Vestigial Flavoproteins. <i>Scientific Reports</i> , <b>2017</b> , 7, 44906	4.9	56
337	Electrical circuitry in biology: emerging principles from protein structure. <i>Current Opinion in Structural Biology</i> , <b>2004</b> , 14, 642-7	8.1	56
336	Proton-coupled electron transfer and adduct configuration are important for C4a-hydroperoxyflavin formation and stabilization in a flavoenzyme. <i>Journal of the American Chemical Society</i> , <b>2014</b> , 136, 241-53	16.4	55
335	Machine Learning of Designed Translational Control Allows Predictive Pathway Optimization in <i>Escherichia coli</i> . <i>ACS Synthetic Biology</i> , <b>2019</b> , 8, 127-136	5.7	53
334	Barrier compression enhances an enzymatic hydrogen-transfer reaction. <i>Angewandte Chemie - International Edition</i> , <b>2009</b> , 48, 1452-4	16.4	51
333	Enzymatic Menthol Production: One-Pot Approach Using Engineered <i>Escherichia coli</i> . <i>ACS Synthetic Biology</i> , <b>2015</b> , 4, 1112-23	5.7	50
332	Crystal structure of a soluble form of human CD73 with ecto-5'-nucleotidase activity. <i>ChemBioChem</i> , <b>2012</b> , 13, 2384-91	3.8	50
331	Conformational and thermodynamic control of electron transfer in neuronal nitric oxide synthase. <i>Biochemistry</i> , <b>2007</b> , 46, 5018-29	3.2	50

330	Interflavin electron transfer in human cytochrome P450 reductase is enhanced by coenzyme binding. Relaxation kinetic studies with coenzyme analogues. <i>FEBS Journal</i> , <b>2003</b> , 270, 2612-21		50
329	Molecular dissection of human methionine synthase reductase: determination of the flavin redox potentials in full-length enzyme and isolated flavin-binding domains. <i>Biochemistry</i> , <b>2003</b> , 42, 3911-20	3.2	50
328	Engineering the substrate specificity of glutathione reductase toward that of trypanothione reduction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>1991</b> , 88, 8769-73	11.5	50
327	Sweating the assets of flavin cofactors: new insight of chemical versatility from knowledge of structure and mechanism. <i>Current Opinion in Structural Biology</i> , <b>2016</b> , 41, 19-26	8.1	49
326	Biocatalytic Asymmetric Alkene Reduction: Crystal Structure and Characterization of a Double Bond Reductase from. <i>ACS Catalysis</i> , <b>2013</b> , 3, 370-379	13.1	49
325	Asymmetric Reduction of Activated Alkenes by Pentaerythritol Tetranitrate Reductase: Specificity and Control of Stereochemical Outcome by Reaction Optimisation. <i>Advanced Synthesis and Catalysis</i> , <b>2009</b> , 351, 2976-2990	5.6	49
324	Tunneling and classical paths for proton transfer in an enzyme reaction dominated by tunneling: oxidation of tryptamine by aromatic amine dehydrogenase. <i>Journal of Physical Chemistry B</i> , <b>2007</b> , 111, 3032-47	3.4	49
323	The pH dependence of kinetic isotope effects in monoamine oxidase A indicates stabilization of the neutral amine in the enzyme-substrate complex. <i>FEBS Journal</i> , <b>2008</b> , 275, 3850-8	5.7	49
322	Purification and characterization of glutathione reductase encoded by a cloned and over-expressed gene in <i>Escherichia coli</i> . <i>Biochemical Journal</i> , <b>1987</b> , 245, 875-80	3.8	49
321	Switching pyridine nucleotide specificity in P450 BM3: mechanistic analysis of the W1046H and W1046A enzymes. <i>Journal of Biological Chemistry</i> , <b>2005</b> , 280, 17634-44	5.4	48
320	Anatomy of an engineered NAD-binding site. <i>Protein Science</i> , <b>1994</b> , 3, 1504-14	6.3	48
319	Demonstration of proton-coupled electron transfer in the copper-containing nitrite reductases. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 25973-83	5.4	46
318	Coupled motions direct electrons along human microsomal P450 Chains. <i>PLoS Biology</i> , <b>2011</b> , 9, e1001222	9.7	46
317	Mass spectrometry locates local and allosteric conformational changes that occur on cofactor binding. <i>Nature Communications</i> , <b>2016</b> , 7, 12163	17.4	45
316	Are the catalytic properties of enzymes from piezophilic organisms pressure adapted?. <i>ChemBioChem</i> , <b>2009</b> , 10, 2348-53	3.8	45
315	Mutagenesis of morphinone reductase induces multiple reactive configurations and identifies potential ambiguity in kinetic analysis of enzyme tunneling mechanisms. <i>Journal of the American Chemical Society</i> , <b>2007</b> , 129, 13949-56	16.4	45
314	Enzyme catalysis: over-the-barrier or through-the-barrier?. <i>Trends in Biochemical Sciences</i> , <b>2000</b> , 25, 405-8	0.3	45
313	Reductive and oxidative half-reactions of morphinone reductase from <i>Pseudomonas putida</i> M10: a kinetic and thermodynamic analysis. <i>Biochemistry</i> , <b>1998</b> , 37, 7598-607	3.2	45

312	A microbial platform for renewable propane synthesis based on a fermentative butanol pathway. <i>Biotechnology for Biofuels</i> , <b>2015</b> , 8, 61	7.8	44
311	A living foundry for Synthetic Biological Materials: A synthetic biology roadmap to new advanced materials. <i>Synthetic and Systems Biotechnology</i> , <b>2018</b> , 3, 105-112	4.2	44
310	Magnetic field effect studies indicate reduced geminate recombination of the radical pair in substrate-bound adenosylcobalamin-dependent ethanolamine ammonia lyase. <i>Journal of the American Chemical Society</i> , <b>2007</b> , 129, 15718-27	16.4	44
309	Rapid P450 heme iron reduction by laser photoexcitation of Mycobacterium tuberculosis CYP121 and CYP51B1. Analysis of CO complexation reactions and reversibility of the P450/P420 equilibrium. <i>Journal of Biological Chemistry</i> , <b>2007</b> , 282, 24816-24	5.4	44
308	Organization of the genes involved in dimethylglycine and sarcosine degradation in <i>Arthrobacter</i> spp.: implications for glycine betaine catabolism. <i>FEBS Journal</i> , <b>2001</b> , 268, 3390-8		44
307	Trimethylamine dehydrogenase of bacterium W3A1. Molecular cloning, sequence determination and over-expression of the gene. <i>FEBS Letters</i> , <b>1992</b> , 308, 271-6	3.8	44
306	Light-driven biocatalytic reduction of $\mu$ nsaturated compounds by ene reductases employing transition metal complexes as photosensitizers. <i>Catalysis Science and Technology</i> , <b>2016</b> , 6, 169-177	5.5	43
305	Barrier compression and its contribution to both classical and quantum mechanical aspects of enzyme catalysis. <i>Biophysical Journal</i> , <b>2010</b> , 98, 121-8	2.9	42
304	Continuous wave photolysis magnetic field effect investigations with free and protein-bound alkylcobalamins. <i>Journal of the American Chemical Society</i> , <b>2009</b> , 131, 17246-53	16.4	42
303	Cooperativity induced by a single mutation at the subunit interface of a dimeric enzyme: glutathione reductase. <i>Science</i> , <b>1992</b> , 258, 1140-3	33.3	42
302	Systematic methodology for the development of biocatalytic hydrogen-borrowing cascades: application to the synthesis of chiral $\mu$ substituted carboxylic acids from $\mu$ substituted $\mu$ nsaturated aldehydes. <i>Organic and Biomolecular Chemistry</i> , <b>2015</b> , 13, 223-33	3.9	41
301	Selenzyme: enzyme selection tool for pathway design. <i>Bioinformatics</i> , <b>2018</b> , 34, 2153-2154	7.2	41
300	Focused directed evolution of pentaerythritol tetranitrate reductase by using automated anaerobic kinetic screening of site-saturated libraries. <i>ChemBioChem</i> , <b>2010</b> , 11, 2433-47	3.8	41
299	alpha/beta barrel evolution and the modular assembly of enzymes: emerging trends in the flavin oxidase/dehydrogenase family. <i>BioEssays</i> , <b>1994</b> , 16, 115-22	4.1	41
298	Large-scale domain dynamics and adenosylcobalamin reorientation orchestrate radical catalysis in ornithine 4,5-aminomutase. <i>Journal of Biological Chemistry</i> , <b>2010</b> , 285, 13942-50	5.4	40
297	A stable tyrosyl radical in monoamine oxidase A. <i>Journal of Biological Chemistry</i> , <b>2005</b> , 280, 4627-31	5.4	40
296	Excited state dynamics and catalytic mechanism of the light-driven enzyme protochlorophyllide oxidoreductase. <i>Physical Chemistry Chemical Physics</i> , <b>2012</b> , 14, 8818-24	3.6	39
295	Cryptochrome-dependent magnetic field effect on seizure response in <i>Drosophila</i> larvae. <i>Scientific Reports</i> , <b>2014</b> , 4, 5799	4.9	38

294	Structural basis for enzymatic photocatalysis in chlorophyll biosynthesis. <i>Nature</i> , <b>2019</b> , 574, 722-725	50.4	38
293	Photochemical Mechanism of Light-Driven Fatty Acid Photodecarboxylase. <i>ACS Catalysis</i> , <b>2020</b> , 10, 6691-6696	16.4	37
292	Large-scale domain conformational change is coupled to the activation of the Co-C bond in the B12-dependent enzyme ornithine 4,5-aminomutase: a computational study. <i>Journal of the American Chemical Society</i> , <b>2012</b> , 134, 2367-77	16.4	37
291	Catalytic mechanism of hydride transfer between NADP <sup>+</sup> /H and ferredoxin-NADP <sup>+</sup> reductase from <i>Anabaena</i> PCC 7119. <i>Archives of Biochemistry and Biophysics</i> , <b>2007</b> , 459, 79-90	4.1	37
290	Atomic resolution structures and solution behavior of enzyme-substrate complexes of <i>Enterobacter cloacae</i> PB2 pentaerythritol tetranitrate reductase. Multiple conformational states and implications for the mechanism of nitroaromatic explosive degradation. <i>Journal of Biological Chemistry</i> , <b>2004</b> , 279, 30563-72	5.4	37
289	Low carbon strategies for sustainable bio-alkane gas production and renewable energy. <i>Energy and Environmental Science</i> , <b>2020</b> , 13, 1818-1831	35.4	36
288	Inter-flavin electron transfer in cytochrome P450 reductase - effects of solvent and pH identify hidden complexity in mechanism. <i>FEBS Journal</i> , <b>2008</b> , 275, 4540-57	5.7	36
287	Incorporation of hydrostatic pressure into models of hydrogen tunneling highlights a role for pressure-modulated promoting vibrations. <i>Biochemistry</i> , <b>2008</b> , 47, 9880-7	3.2	35
286	Mechanism of coenzyme binding to human methionine synthase reductase revealed through the crystal structure of the FNR-like module and isothermal titration calorimetry. <i>Biochemistry</i> , <b>2007</b> , 46, 11833-44	3.2	35
285	Analysis of classical and quantum paths for deprotonation of methylamine by methylamine dehydrogenase. <i>ChemPhysChem</i> , <b>2007</b> , 8, 1816-35	3.2	35
284	Protein interactions in the human methionine synthase-methionine synthase reductase complex and implications for the mechanism of enzyme reactivation. <i>Biochemistry</i> , <b>2007</b> , 46, 6696-709	3.2	34
283	Excited-state charge separation in the photochemical mechanism of the light-driven enzyme protochlorophyllide oxidoreductase. <i>Angewandte Chemie - International Edition</i> , <b>2015</b> , 54, 1512-5	16.4	33
282	Involvement of a flavin iminoquinone methide in the formation of 6-hydroxyflavin mononucleotide in trimethylamine dehydrogenase: a rationale for the existence of 8 $\alpha$ -methyl and C6-linked covalent flavoproteins. <i>Biochemistry</i> , <b>1997</b> , 36, 7162-8	3.2	33
281	Determination of the redox potentials and electron transfer properties of the FAD- and FMN-binding domains of the human oxidoreductase NR1. <i>FEBS Journal</i> , <b>2003</b> , 270, 1164-75		33
280	Alternative Hydride Sources for Ene-Reductases: Current Trends. <i>ChemCatChem</i> , <b>2014</b> , 6, 951-954	5.2	32
279	The causative role and therapeutic potential of the kynurenine pathway in neurodegenerative disease. <i>Journal of Molecular Medicine</i> , <b>2013</b> , 91, 705-13	5.5	32
278	Carbon monoxide poisoning is prevented by the energy costs of conformational changes in gas-binding haemproteins. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 15780-5	11.5	32
277	Flavocytochrome P450 BM3 and the origin of CYP102 fusion species. <i>Biochemical Society Transactions</i> , <b>2006</b> , 34, 1173-7	5.1	32



276	The primary structure of Hyphomicrobium X dimethylamine dehydrogenase. Relationship to trimethylamine dehydrogenase and implications for substrate recognition. <i>FEBS Journal</i> , <b>1995</b> , 232, 264-71		32
275	A 'Plug and Play' Platform for the Production of Diverse Monoterpene Hydrocarbon Scaffolds in. <i>ChemistrySelect</i> , <b>2016</b> , 1, 1893-1896	1.8	32
274	Structural Basis of Catalysis in the Bacterial Monoterpene Synthases Linalool Synthase and 1,8-Cineole Synthase. <i>ACS Catalysis</i> , <b>2017</b> , 7, 6268-6282	13.1	31
273	Ultrafast infrared spectral fingerprints of vitamin B12 and related cobalamins. <i>Journal of Physical Chemistry A</i> , <b>2012</b> , 116, 5586-94	2.8	31
272	Are environmentally coupled enzymatic hydrogen tunneling reactions influenced by changes in solution viscosity?. <i>Angewandte Chemie - International Edition</i> , <b>2008</b> , 47, 537-40	16.4	31
271	Protein dynamics enhance electronic coupling in electron transfer complexes. <i>Journal of Biological Chemistry</i> , <b>2001</b> , 276, 34142-7	5.4	31
270	New enzymes for old: redesigning the coenzyme and substrate specificities of glutathione reductase. <i>BioEssays</i> , <b>1991</b> , 13, 515-25	4.1	31
269	Donor-Acceptor Distance Sampling Enhances the Performance of "Better than Nature" Nicotinamide Coenzyme Biomimetics. <i>Journal of the American Chemical Society</i> , <b>2016</b> , 138, 11089-92	16.4	30
268	Magnetic Fields Modulate Blue-Light-Dependent Regulation of Neuronal Firing by Cryptochrome. <i>Journal of Neuroscience</i> , <b>2016</b> , 36, 10742-10749	6.6	30
267	Impact of residues remote from the catalytic centre on enzyme catalysis of copper nitrite reductase. <i>Nature Communications</i> , <b>2014</b> , 5, 4395	17.4	30
266	Cryogenic and laser photoexcitation studies identify multiple roles for active site residues in the light-driven enzyme protochlorophyllide oxidoreductase. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 18160-6	5.4	30
265	Conformational events during ternary enzyme-substrate complex formation are rate limiting in the catalytic cycle of the light-driven enzyme protochlorophyllide oxidoreductase. <i>Biochemistry</i> , <b>2008</b> , 47, 10991-8	3.2	30
264	Gating mechanisms for biological electron transfer: integrating structure with biophysics reveals the nature of redox control in cytochrome P450 reductase and copper-dependent nitrite reductase. <i>FEBS Letters</i> , <b>2012</b> , 586, 578-84	3.8	29
263	Cobalamin uptake and reactivation occurs through specific protein interactions in the methionine synthase-methionine synthase reductase complex. <i>FEBS Journal</i> , <b>2009</b> , 276, 1942-51	5.7	29
262	Electron transfer from flavin to iron in the Pseudomonas oleovorans rubredoxin reductase-rubredoxin electron transfer complex. <i>Biochemistry</i> , <b>1998</b> , 37, 15513-22	3.2	29
261	Mechanism of radical-based catalysis in the reaction catalyzed by adenosylcobalamin-dependent ornithine 4,5-aminomutase. <i>Journal of Biological Chemistry</i> , <b>2008</b> , 283, 34615-25	5.4	29
260	Structural differences between wild-type NADP-dependent glutathione reductase from Escherichia coli and a redesigned NAD-dependent mutant. <i>Journal of Molecular Biology</i> , <b>1993</b> , 231, 191-5	6.5	29
259	On the evolution of alternate core packing in eightfold beta/alpha-barrels. <i>Protein Science</i> , <b>1994</b> , 3, 1889-92	6.9	29

258	Biocatalytic Routes to Lactone Monomers for Polymer Production. <i>Biochemistry</i> , <b>2018</b> , 57, 1997-2008	3.2	28
257	Is there a dynamic protein contribution to the substrate trigger in coenzyme B12-dependent ethanolamine ammonia lyase?. <i>Angewandte Chemie - International Edition</i> , <b>2011</b> , 50, 10843-6	16.4	28
256	The enzyme aromatic amine dehydrogenase induces a substrate conformation crucial for promoting vibration that significantly reduces the effective potential energy barrier to proton transfer. <i>Journal of the Royal Society Interface</i> , <b>2008</b> , 5 Suppl 3, S225-32	4.1	28
255	Cytochromes P450: novel drug targets in the war against multidrug-resistant Mycobacterium tuberculosis. <i>Biochemical Society Transactions</i> , <b>2003</b> , 31, 625-30	5.1	28
254	Electron transfer in human methionine synthase reductase studied by stopped-flow spectrophotometry. <i>Biochemistry</i> , <b>2004</b> , 43, 490-500	3.2	28
253	Stabilization of non-productive conformations underpins rapid electron transfer to electron-transferring flavoprotein. <i>Journal of Biological Chemistry</i> , <b>2005</b> , 280, 30361-6	5.4	28
252	Protein recognition of ammonium cations using side-chain aromatics: a structural variation for secondary ammonium ligands. <i>Protein Science</i> , <b>1995</b> , 4, 2625-8	6.3	28
251	A brain-permeable inhibitor of the neurodegenerative disease target kynurenine 3-monooxygenase prevents accumulation of neurotoxic metabolites. <i>Communications Biology</i> , <b>2019</b> , 2, 271	6.7	27
250	Structural and mechanistic aspects of flavoproteins: probes of hydrogen tunnelling. <i>FEBS Journal</i> , <b>2009</b> , 276, 3930-41	5.7	27
249	Proton transfer in the oxidative half-reaction of pentaerythritol tetranitrate reductase. Structure of the reduced enzyme-progesterone complex and the roles of residues Tyr186, His181, His184. <i>FEBS Journal</i> , <b>2005</b> , 272, 4660-71	5.7	27
248	Kinetics of CO binding to the haem domain of murine inducible nitric oxide synthase: differential effects of haem domain ligands. <i>Biochemical Journal</i> , <b>2001</b> , 358, 201-208	3.8	27
247	alpha Arg-237 in <i>Methylophilus methylotrophus</i> (sp. W3A1) electron-transferring flavoprotein affords approximately 200-millivolt stabilization of the FAD anionic semiquinone and a kinetic block on full reduction to the dihydroquinone. <i>Journal of Biological Chemistry</i> , <b>2001</b> , 276, 20190-6	5.4	27
246	Engineering of an intersubunit disulphide bridge in glutathione reductase from <i>Escherichia coli</i> . <i>FEBS Letters</i> , <b>1988</b> , 241, 46-50	3.8	27
245	Assembly of redox centers in the trimethylamine dehydrogenase of bacterium W3A1. Properties of the wild-type enzyme and a C30A mutant expressed from a cloned gene in <i>Escherichia coli</i> . <i>Journal of Biological Chemistry</i> , <b>1994</b> , 269, 13942-50	5.4	27
244	SelProm: A Queryable and Predictive Expression Vector Selection Tool for. <i>ACS Synthetic Biology</i> , <b>2019</b> , 8, 1478-1483	5.7	26
243	Mutagenesis alters the catalytic mechanism of the light-driven enzyme protochlorophyllide oxidoreductase. <i>Journal of Biological Chemistry</i> , <b>2010</b> , 285, 2113-9	5.4	26
242	Structure-based mechanism of CMP-2-keto-3-deoxymanno-octulonic acid synthetase: convergent evolution of a sugar-activating enzyme with DNA/RNA polymerases. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 35514-23	5.4	26
241	Magnetic field effects and radical pair mechanisms in enzymes: a reappraisal of the horseradish peroxidase system. <i>Journal of the American Chemical Society</i> , <b>2006</b> , 128, 8408-9	16.4	26

240	Quantum Biology: An Update and Perspective. <i>Quantum Reports</i> , <b>2021</b> , 3, 80-126	2.1	26
239	Convergence of theory and experiment on the role of preorganization, quantum tunneling and enzyme motions into flavoenzyme-catalyzed hydride transfer. <i>ACS Catalysis</i> , <b>2019</b> , 7, 3190-3198	13.1	25
238	Rapid prototyping of microbial production strains for the biomanufacture of potential materials monomers. <i>Metabolic Engineering</i> , <b>2020</b> , 60, 168-182	9.7	25
237	Origin of the proton-transfer step in the cofactor-free (1H)-3-hydroxy-4-oxoquinaldine 2,4-dioxygenase: effect of the basicity of an active site His residue. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 8620-32	5.4	25
236	How does pressure affect barrier compression and isotope effects in an enzymatic hydrogen tunneling reaction?. <i>Angewandte Chemie - International Edition</i> , <b>2011</b> , 50, 2129-32	16.4	25
235	Laser excitation studies of the product release steps in the catalytic cycle of the light-driven enzyme, protochlorophyllide oxidoreductase. <i>Journal of Biological Chemistry</i> , <b>2007</b> , 282, 32015-20	5.4	25
234	Catalytic Mechanism of Aromatic Nitration by Cytochrome P450 TxtE: Involvement of a Ferric-Peroxonitrite Intermediate. <i>Journal of the American Chemical Society</i> , <b>2020</b> , 142, 15764-15779	16.4	25
233	Bio-derived Production of Cinnamyl Alcohol via a Three Step Biocatalytic Cascade and Metabolic Engineering. <i>Green Chemistry</i> , <b>2019</b> , 20, 658-663	10	24
232	Protein motions are coupled to the reaction chemistry in coenzyme B12-dependent ethanolamine ammonia lyase. <i>Angewandte Chemie - International Edition</i> , <b>2012</b> , 51, 9306-10	16.4	24
231	Relating localized protein motions to the reaction coordinate in coenzyme B12-dependent enzymes. <i>FEBS Journal</i> , <b>2013</b> , 280, 2997-3008	5.7	24
230	A twin-track approach has optimized proton and hydride transfer by dynamically coupled tunneling during the evolution of protochlorophyllide oxidoreductase. <i>Journal of Biological Chemistry</i> , <b>2011</b> , 286, 11849-54	5.4	24
229	DNA binding suppresses human AIF-M2 activity and provides a connection between redox chemistry, reactive oxygen species, and apoptosis. <i>Journal of Biological Chemistry</i> , <b>2007</b> , 282, 30331-40	5.4	24
228	The reaction of trimethylamine dehydrogenase with trimethylamine. <i>Journal of Biological Chemistry</i> , <b>1999</b> , 274, 13147-54	5.4	24
227	Untangling Heavy Protein and Cofactor Isotope Effects on Enzyme-Catalyzed Hydride Transfer. <i>Journal of the American Chemical Society</i> , <b>2016</b> , 138, 13693-13699	16.4	24
226	A biocatalytic method for the chemoselective aerobic oxidation of aldehydes to carboxylic acids. <i>Green Chemistry</i> , <b>2018</b> , 20, 3931-3943	10	23
225	Pressure effects on enzyme-catalyzed quantum tunneling events arise from protein-specific structural and dynamic changes. <i>Journal of the American Chemical Society</i> , <b>2012</b> , 134, 9749-54	16.4	23
224	Stepwise Hydride Transfer in a Biological System: Insights into the Reaction Mechanism of the Light-Dependent Protochlorophyllide Oxidoreductase. <i>Angewandte Chemie - International Edition</i> , <b>2018</b> , 57, 2682-2686	16.4	22
223	Laser-flash photolysis indicates that internal electron transfer is triggered by proton uptake by <i>Alcaligenes xylosoxidans</i> copper-dependent nitrite reductase. <i>FEBS Journal</i> , <b>2012</b> , 279, 2174-81	5.7	22

222	Parallel pathways and free-energy landscapes for enzymatic hydride transfer probed by hydrostatic pressure. <i>ChemBioChem</i> , <b>2009</b> , 10, 1379-84	3.8	22
221	Bipartite recognition and conformational sampling mechanisms for hydride transfer from nicotinamide coenzyme to FMN in pentaerythritol tetranitrate reductase. <i>FEBS Journal</i> , <b>2009</b> , 276, 4780-97	5.7	22
220	Tyrosyl radical formation and propagation in flavin dependent monoamine oxidases. <i>ChemBioChem</i> , <b>2010</b> , 11, 1228-31	3.8	22
219	Role of active site residues and solvent in proton transfer and the modulation of flavin reduction potential in bacterial morphinone reductase. <i>Journal of Biological Chemistry</i> , <b>2005</b> , 280, 27103-10	5.4	22
218	Reaction of morphinone reductase with 2-cyclohexen-1-one and 1-nitrocyclohexene: proton donation, ligand binding, and the role of residues Histidine 186 and Asparagine 189. <i>Journal of Biological Chemistry</i> , <b>2005</b> , 280, 10695-709	5.4	22
217	Thermodynamic and kinetic analysis of the isolated FAD domain of rat neuronal nitric oxide synthase altered in the region of the FAD shielding residue Phe1395. <i>FEBS Journal</i> , <b>2004</b> , 271, 2548-60		22
216	Optimizing the Michaelis complex of trimethylamine dehydrogenase: identification of interactions that perturb the ionization of substrate and facilitate catalysis with trimethylamine base. <i>Journal of Biological Chemistry</i> , <b>2001</b> , 276, 42887-92	5.4	22
215	Radical-based photoinactivation of fatty acid photodecarboxylases. <i>Analytical Biochemistry</i> , <b>2020</b> , 600, 113749	3.1	21
214	Energy landscapes and catalysis in nitric-oxide synthase. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 11725-11738	5.4	21
213	Human cryptochrome-1 confers light independent biological activity in transgenic <i>Drosophila</i> correlated with flavin radical stability. <i>PLoS ONE</i> , <b>2012</b> , 7, e31867	3.7	21
212	Reduction of aliphatic nitroesters and N-nitramines by <i>Enterobacter cloacae</i> PB2 pentaerythritol tetranitrate reductase: quantitative structure-activity relationships. <i>FEBS Journal</i> , <b>2008</b> , 275, 6192-203	5.7	21
211	Role of histidine 42 in ascorbate peroxidase. Kinetic analysis of the H42A and H42E variants. <i>FEBS Journal</i> , <b>2002</b> , 269, 3182-92		21
210	Techno-economic assessment of microbial limonene production. <i>Bioresource Technology</i> , <b>2020</b> , 300, 122666	6.6	21
209	Chemo-enzymatic routes towards the synthesis of bio-based monomers and polymers. <i>Molecular Catalysis</i> , <b>2019</b> , 467, 95-110	3.3	20
208	Experiment and Simulation Reveal How Mutations in Functional Plasticity Regions Guide Plant Monoterpene Synthase Product Outcome. <i>ACS Catalysis</i> , <b>2019</b> , 8, 3780-3791	13.1	20
207	Electro-enzymatic viologen-mediated substrate reduction using pentaerythritol tetranitrate reductase and a parallel, segmented fluid flow system. <i>Catalysis Science and Technology</i> , <b>2013</b> , 3, 1505	5.5	20
206	Real-time analysis of conformational control in electron transfer reactions of human cytochrome P450 reductase with cytochrome c. <i>FEBS Journal</i> , <b>2015</b> , 282, 4357-75	5.7	20
205	Continuous two-phase flow miniaturised bioreactor for monitoring anaerobic biocatalysis by pentaerythritol tetranitrate reductase. <i>Lab on A Chip</i> , <b>2010</b> , 10, 1929-36	7.2	20

204	Solvent-slaved protein motions accompany proton but not hydride tunneling in light-activated protochlorophyllide oxidoreductase. <i>Angewandte Chemie - International Edition</i> , <b>2009</b> , 48, 3850-3	16.4	20
203	An ultracentrifugal approach to quantitative characterization of the molecular assembly of a physiological electron-transfer complex: the interaction of electron-transferring flavoprotein with trimethylamine dehydrogenase. <i>FEBS Journal</i> , <b>1997</b> , 243, 393-9		20
202	Atomistic insight into the origin of the temperature-dependence of kinetic isotope effects and H-tunnelling in enzyme systems is revealed through combined experimental studies and biomolecular simulation. <i>Biochemical Society Transactions</i> , <b>2008</b> , 36, 16-21	5.1	20
201	The flavinylation reaction of trimethylamine dehydrogenase. Analysis by directed mutagenesis and electrospray mass spectrometry. <i>Journal of Biological Chemistry</i> , <b>1995</b> , 270, 13186-91	5.4	20
200	Towards the free energy landscape for catalysis in mammalian nitric oxide synthases. <i>FEBS Journal</i> , <b>2015</b> , 282, 3016-29	5.7	19
199	Enzyme engineering toolbox for catalyst for change. <i>Catalysis Science and Technology</i> , <b>2013</b> , 3, 2182	5.5	19
198	Active site modifications in pentaerythritol tetranitrate reductase can lead to improved product enantiopurity, decreased by-product formation and altered stereochemical outcome in reactions with $\alpha$ -unsaturated nitroolefins. <i>Catalysis Science and Technology</i> , <b>2011</b> , 1, 948	5.5	19
197	Differential coupling through Val-344 and Tyr-442 of trimethylamine dehydrogenase in electron transfer reactions with ferricenium ions and electron transferring flavoprotein. <i>Biochemistry</i> , <b>2000</b> , 39, 9188-200	3.2	19
196	biochem4j: Integrated and extensible biochemical knowledge through graph databases. <i>PLoS ONE</i> , <b>2017</b> , 12, e0179130	3.7	18
195	Multiple active site residues are important for photochemical efficiency in the light-activated enzyme protochlorophyllide oxidoreductase (POR). <i>Journal of Photochemistry and Photobiology B: Biology</i> , <b>2016</b> , 161, 236-43	6.7	18
194	Enzymatic single-molecule kinetic isotope effects. <i>Journal of the American Chemical Society</i> , <b>2013</b> , 135, 3855-64	16.4	18
193	Ultrafast red light activation of <i>Synechocystis</i> phytochrome Cph1 triggers major structural change to form the Pfr signalling-competent state. <i>PLoS ONE</i> , <b>2012</b> , 7, e52418	3.7	18
192	An internal reaction chamber in dimethylglycine oxidase provides efficient protection from exposure to toxic formaldehyde. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 17826-34	5.4	18
191	Driving force analysis of proton tunnelling across a reactivity series for an enzyme-substrate complex. <i>ChemBioChem</i> , <b>2008</b> , 9, 2839-45	3.8	18
190	Introduction. Quantum catalysis in enzymes: beyond the transition state theory paradigm. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2006</b> , 361, 1293-1294	5.8	18
189	Insights into the H <sub>2</sub> O-driven catalytic mechanism of fungal lytic polysaccharide monoxygenases. <i>FEBS Journal</i> , <b>2021</b> , 288, 4115-4128	5.7	18
188	Magnetic field effects as a result of the radical pair mechanism are unlikely in redox enzymes. <i>Journal of the Royal Society Interface</i> , <b>2015</b> , 12,	4.1	17
187	Kinetic and spectroscopic probes of motions and catalysis in the cytochrome P450 reductase family of enzymes. <i>FEBS Journal</i> , <b>2012</b> , 279, 1534-44	5.7	17

186	Time-resolved studies of radical pairs. <i>Biochemical Society Transactions</i> , <b>2009</b> , 37, 358-62	5.1	17
185	Electron transfer and conformational change in complexes of trimethylamine dehydrogenase and electron transferring flavoprotein. <i>Journal of Biological Chemistry</i> , <b>2002</b> , 277, 8457-65	5.4	17
184	Engineering towards production of gatekeeper (2)-flavanones: naringenin, pinocembrin, eriodictyol and homoeriodictyol. <i>Synthetic Biology</i> , <b>2020</b> , 5, ysaa012	3.3	17
183	A Toolbox for Diverse Oxyfunctionalisation of Monoterpenes. <i>Scientific Reports</i> , <b>2018</b> , 8, 14396	4.9	17
182	PartsGenie: an integrated tool for optimizing and sharing synthetic biology parts. <i>Bioinformatics</i> , <b>2018</b> , 34, 2327-2329	7.2	16
181	Pinpointing a Mechanistic Switch Between Ketoreduction and "Ene" Reduction in Short-Chain Dehydrogenases/Reductases. <i>Angewandte Chemie - International Edition</i> , <b>2016</b> , 55, 9596-600	16.4	16
180	Excited state dynamics can be used to probe donor-acceptor distances for H-tunneling reactions catalyzed by flavoproteins. <i>Biophysical Journal</i> , <b>2013</b> , 105, 2549-58	2.9	16
179	A perspective on conformational control of electron transfer in nitric oxide synthases. <i>Nitric Oxide - Biology and Chemistry</i> , <b>2017</b> , 63, 61-67	5	16
178	The photoinitiated reaction pathway of full-length cyanobacteriochrome Tlr0924 monitored over 12 orders of magnitude. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 17747-57	5.4	16
177	Nanofibrillar Peptide hydrogels for the immobilization of biocatalysts for chemical transformations. <i>Macromolecular Rapid Communications</i> , <b>2014</b> , 35, 868-74	4.8	16
176	Secondary kinetic isotope effects as probes of environmentally-coupled enzymatic hydrogen tunneling reactions. <i>ChemPhysChem</i> , <b>2008</b> , 9, 1536-9	3.2	16
175	Solvent as a probe of active site motion and chemistry during the hydrogen tunnelling reaction in morphinone reductase. <i>ChemPhysChem</i> , <b>2008</b> , 9, 1875-81	3.2	16
174	The role of Tyr-169 of trimethylamine dehydrogenase in substrate oxidation and magnetic interaction between FMN cofactor and the 4Fe/4S center. <i>Journal of Biological Chemistry</i> , <b>1999</b> , 274, 13155-61	5.4	16
173	Redox cycles in trimethylamine dehydrogenase and mechanism of substrate inhibition. <i>Biochemistry</i> , <b>1999</b> , 38, 14927-40	3.2	16
172	Structural insights into the ene-reductase synthesis of profens. <i>Organic and Biomolecular Chemistry</i> , <b>2017</b> , 15, 4440-4448	3.9	15
171	An oxidative N-demethylase reveals PAS transition from ubiquitous sensor to enzyme. <i>Nature</i> , <b>2016</b> , 539, 593-597	50.4	15
170	Probing active site geometry using high pressure and secondary isotope effects in an enzyme-catalysed 'deep' H-tunnelling reaction. <i>Journal of Physical Organic Chemistry</i> , <b>2010</b> , 23, 696-701	2.1	15
169	Conformational dynamics of the cytochrome P450 BM3/N-palmitoylglycine complex: the proposed "proximal-distal" transition probed by temperature-jump spectroscopy. <i>Journal of Physical Chemistry B</i> , <b>2007</b> , 111, 7879-86	3.4	15

168	Using trimethylamine dehydrogenase in an enzyme linked amperometric electrode. Part 1. Wild-type enzyme redox mediation. <i>Analyst, The</i> , <b>2003</b> , 128, 166-72	5	15
167	Effects of environment on flavin reactivity in morphinone reductase: analysis of enzymes displaying differential charge near the N-1 atom and C-2 carbonyl region of the active-site flavin. <i>Biochemical Journal</i> , <b>2001</b> , 359, 315-323	3.8	15
166	Formation of W(3)A(1) electron-transferring flavoprotein (ETF) hydroquinone in the trimethylamine dehydrogenase x ETF protein complex. <i>Journal of Biological Chemistry</i> , <b>2000</b> , 275, 12546-52	5.4	15
165	Nuclear quantum tunnelling in enzymatic reactions--an enzymologist's perspective. <i>Physical Chemistry Chemical Physics</i> , <b>2015</b> , 17, 30775-82	3.6	14
164	Engineering the "Missing Link" in Biosynthetic (-)-Menthol Production: Bacterial Isopulegone Isomerase. <i>ACS Catalysis</i> , <b>2018</b> , 8, 2012-2020	13.1	14
163	Highly multiplexed, fast and accurate nanopore sequencing for verification of synthetic DNA constructs and sequence libraries. <i>Synthetic Biology</i> , <b>2019</b> , 4, ysz025	3.3	14
162	Comprehensive analysis of the green-to-blue photoconversion of full-length Cyanobacteriochrome Tr0924. <i>Biophysical Journal</i> , <b>2014</b> , 107, 2195-203	2.9	14
161	Mechanistic reappraisal of early stage photochemistry in the light-driven enzyme protochlorophyllide oxidoreductase. <i>PLoS ONE</i> , <b>2012</b> , 7, e45642	3.7	14
160	Laser photoexcitation of NAD(P)H induces reduction of P450 BM3 heme domain on the microsecond time scale. <i>Journal of the American Chemical Society</i> , <b>2007</b> , 129, 6647-53	16.4	14
159	Computational studies of enzyme mechanism: linking theory with experiment in the analysis of enzymic H-tunnelling. <i>Physical Chemistry Chemical Physics</i> , <b>2006</b> , 8, 4510-6	3.6	14
158	X-ray scattering studies of <i>Methylophilus methylotrophus</i> (sp. W3A1) electron-transferring flavoprotein. Evidence for multiple conformational states and an induced fit mechanism for assembly with trimethylamine dehydrogenase. <i>Journal of Biological Chemistry</i> , <b>2000</b> , 275, 21349-54	5.4	14
157	Reductive half-reaction of the H172Q mutant of trimethylamine dehydrogenase: evidence against a carbanion mechanism and assignment of kinetically influential ionizations in the enzyme-substrate complex. <i>Biochemical Journal</i> , <b>1999</b> , 341, 307-314	3.8	14
156	Reaction of the C30A mutant of trimethylamine dehydrogenase with diethylmethylamine. <i>Journal of Biological Chemistry</i> , <b>1996</b> , 271, 13401-6	5.4	14
155	Synthetic biology for fibres, adhesives and active camouflage materials in protection and aerospace. <i>MRS Communications</i> , <b>2019</b> , 9, 486-504	2.7	13
154	Equatorial Active Site Compaction and Electrostatic Reorganization in Catechol--methyltransferase. <i>ACS Catalysis</i> , <b>2019</b> , 9, 4394-4401	13.1	13
153	Structure and Mechanism of a Viral Collagen Prolyl Hydroxylase. <i>Biochemistry</i> , <b>2015</b> , 54, 6093-105	3.2	13
152	Protein Conformational Change Is Essential for Reductive Activation of Lytic Polysaccharide Monooxygenase by Cellobiose Dehydrogenase. <i>ACS Catalysis</i> , <b>2020</b> , 10, 4842-4853	13.1	13
151	Crystal structure and solution characterization of the activation domain of human methionine synthase. <i>FEBS Journal</i> , <b>2007</b> , 274, 738-50	5.7	13

150	Flavoenzyme catalysed oxidation of amines: roles for flavin and protein-based radicals. <i>Biochemical Society Transactions</i> , <b>2005</b> , 33, 754-7	5.1	13
149	Correlating Calmodulin Landscapes with Chemical Catalysis in Neuronal Nitric Oxide Synthase using Time-Resolved FRET and a 5-Deazaflavin Thermodynamic Trap. <i>ACS Catalysis</i> , <b>2016</b> , 6, 5170-5180	13.1	13
148	The sacrificial inactivation of the blue-light photosensor cryptochrome from <i>Drosophila melanogaster</i> . <i>Physical Chemistry Chemical Physics</i> , <b>2018</b> , 20, 28767-28776	3.6	13
147	Liver microsomal lipid enhances the activity and redox coupling of colocalized cytochrome P450 reductase-cytochrome P450 3A4 in nanodiscs. <i>FEBS Journal</i> , <b>2017</b> , 284, 2302-2319	5.7	12
146	An automated pipeline for the screening of diverse monoterpene synthase libraries. <i>Scientific Reports</i> , <b>2019</b> , 9, 11936	4.9	12
145	Retooling microorganisms for the fermentative production of alcohols. <i>Current Opinion in Biotechnology</i> , <b>2018</b> , 50, 1-10	11.4	12
144	Enzymes make light work of hydrocarbon production. <i>Science</i> , <b>2017</b> , 357, 872-873	33.3	12
143	Ab Initio QM/MM Modeling of the Rate-Limiting Proton Transfer Step in the Deamination of Tryptamine by Aromatic Amine Dehydrogenase. <i>Journal of Physical Chemistry B</i> , <b>2017</b> , 121, 9785-9798	3.4	12
142	ELDOR spectroscopy reveals that energy landscapes in human methionine synthase reductase are extensively remodelled following ligand and partner protein binding. <i>ChemBioChem</i> , <b>2011</b> , 12, 863-7	3.8	12
141	Tryptophan 697 modulates hydride and interflavin electron transfer in human methionine synthase reductase. <i>Biochemistry</i> , <b>2011</b> , 50, 11131-42	3.2	12
140	design and automated learning to boost next-generation smart biomanufacturing. <i>Synthetic Biology</i> , <b>2020</b> , 5, ysaa020	3.3	12
139	Cross-Species Analysis of Protein Dynamics Associated with Hydride and Proton Transfer in the Catalytic Cycle of the Light-Driven Enzyme Protochlorophyllide Oxidoreductase. <i>Biochemistry</i> , <b>2016</b> , 55, 903-13	3.2	12
138	Unexpected Roles of a Tether Harboring a Tyrosine Gatekeeper Residue in Modular Nitrite Reductase Catalysis. <i>ACS Catalysis</i> , <b>2019</b> , 9, 6087-6099	13.1	11
137	Solvent-slaved protein motions accompany proton coupled electron transfer reactions catalysed by copper nitrite reductase. <i>Chemical Communications</i> , <b>2019</b> , 55, 5863-5866	5.8	11
136	Syntheses and electronic and optical properties of complexes of the bis(2,2'-bipyrazyl)ruthenium unit. <i>Polyhedron</i> , <b>2015</b> , 96, 57-65	2.7	11
135	Engineering proximal distal heme-NO coordination dinitrosyl dynamics: implications for NO sensor design. <i>Chemical Science</i> , <b>2017</b> , 8, 1986-1994	9.4	11
134	New insights into the reductive half-reaction mechanism of aromatic amine dehydrogenase revealed by reaction with carbinolamine substrates. <i>Journal of Biological Chemistry</i> , <b>2007</b> , 282, 23766-7754		11
133	Using trimethylamine dehydrogenase in an enzyme linked amperometric electrode. <i>Analyst</i> , <b>2003</b> , 128, 889	5	11



132	Crystal structure of DMGO provides a prototype for a new tetrahydrofolate-binding fold. <i>Biochemical Society Transactions</i> , <b>2005</b> , 33, 776-9	5.1	11
131	Active site complementation in engineered heterodimers of Escherichia coli glutathione reductase created in vivo. <i>Proceedings of the Royal Society B: Biological Sciences</i> , <b>1990</b> , 242, 217-24	4.4	11
130	Non-covalent protein-based adhesives for transparent substrates-bovine serum albumin vs. recombinant spider silk. <i>Materials Today Bio</i> , <b>2020</b> , 7, 100068	9.9	11
129	Proton tunnelling and promoting vibrations during the oxidation of ascorbate by ferricyanide?. <i>Physical Chemistry Chemical Physics</i> , <b>2014</b> , 16, 2256-9	3.6	10
128	Role of histidine 225 in adenosylcobalamin-dependent ornithine 4,5-aminomutase. <i>Bioorganic Chemistry</i> , <b>2012</b> , 40, 39-47	5.1	10
127	A surprising observation that oxygen can affect the product enantiopurity of an enzyme-catalysed reaction. <i>FEBS Journal</i> , <b>2012</b> , 279, 4160-71	5.7	10
126	New insights into the multi-step reaction pathway of the reductive half-reaction catalysed by aromatic amine dehydrogenase: a QM/MM study. <i>Chemical Communications</i> , <b>2010</b> , 46, 3104-6	5.8	10
125	Reaction of vascular adhesion protein-1 (VAP-1) with primary amines: mechanistic insights from isotope effects and quantitative structure-activity relationships. <i>Journal of Biological Chemistry</i> , <b>2011</b> , 286, 29584-93	5.4	10
124	Effects of environment on flavin reactivity in morphinone reductase: analysis of enzymes displaying differential charge near the N-1 atom and C-2 carbonyl region of the active-site flavin. <i>Biochemical Journal</i> , <b>2001</b> , 359, 315-23	3.8	10
123	Degradation of explosives by nitrate ester reductases. <i>Biochemical Society Symposia</i> , <b>2001</b> , 68, 143-53		10
122	Identification of covalent flavoproteins and analysis of the covalent link. <i>Methods in Molecular Biology</i> , <b>1999</b> , 131, 181-93	1.4	10
121	Chapter 9: Probing Coupled Motions in Enzymatic Hydrogen Tunnelling Reactions: Beyond Temperature-Dependence Studies of Kinetic Isotope Effects. <i>RSC Biomolecular Sciences</i> , <b>2009</b> , 199-218		10
120	From Bugs to Bioplastics: Total (+)-Dihydrocarvide Biosynthesis by Engineered Escherichia coli. <i>ChemBioChem</i> , <b>2019</b> , 20, 785-792	3.8	10
119	C3 and C6 Modification-Specific OYE Biotransformations of Synthetic Carvones and Sequential BVMO Chemoenzymatic Synthesis of Chiral Caprolactones. <i>Chemistry - A European Journal</i> , <b>2019</b> , 25, 2983-2988	4.8	10
118	Selective cellular imaging with lanthanide-based upconversion nanoparticles. <i>Journal of Biophotonics</i> , <b>2019</b> , 12, e201800256	3.1	10
117	Nonequivalence of Second Sphere "Nocatalytic" Residues in Pentaerythritol Tetranitrate Reductase in Relation to Local Dynamics Linked to H-Transfer in Reactions with NADH and NADPH Coenzymes. <i>ACS Catalysis</i> , <b>2018</b> , 8, 11589-11599	13.1	10
116	Tripping the light fantastic in membrane redox biology: linking dynamic structures to function in ER electron transfer chains. <i>FEBS Journal</i> , <b>2019</b> , 286, 2004-2017	5.7	9
115	Exploring novel bacterial terpene synthases. <i>PLoS ONE</i> , <b>2020</b> , 15, e0232220	3.7	9

114	Photochemical Mechanism of an Atypical Algal Phytochrome. <i>ChemBioChem</i> , <b>2018</b> , 19, 1036-1043	3.8	9
113	Dynamic, electrostatic model for the generation and control of high-energy radical intermediates by a coenzyme B <sub>12</sub> -dependent enzyme. <i>ChemBioChem</i> , <b>2013</b> , 14, 1529-33	3.8	9
112	Internal electron transfer in multi-site redox enzymes is accessed by laser excitation of thiouredopyrene-3,6,8-trisulfonate (TUPS). <i>Chemical Communications</i> , <b>2009</b> , 1124-6	5.8	9
111	Correction of pre-steady-state KIEs for isotopic impurities and the consequences of kinetic isotope fractionation. <i>Journal of Physical Chemistry A</i> , <b>2008</b> , 112, 13109-15	2.8	9
110	Evidence for protein conformational change at a Au(110)/protein interface. <i>Europhysics Letters</i> , <b>2008</b> , 83, 180004	1.6	9
109	Mechanistic aspects and redox properties of hyperthermophilic L-proline dehydrogenase from <i>Pyrococcus furiosus</i> related to dimethylglycine dehydrogenase/oxidase. <i>FEBS Journal</i> , <b>2007</b> , 274, 2070-87	5.7	9
108	Kinetics of CO binding and CO photodissociation in <i>Pseudomonas stutzeri</i> cd1 nitrite reductase: probing the role of extended N-termini in fast structural relaxation upon CO photodissociation. <i>Biochemical Journal</i> , <b>2001</b> , 355, 39-43	3.8	9
107	Colworth Medal Lecture. Enzymes in the quantum world. <i>Biochemical Society Transactions</i> , <b>1999</b> , 27, 767-79	5.9	9
106	Renewable and tuneable bio-LPG blends derived from amino acids. <i>Biotechnology for Biofuels</i> , <b>2020</b> , 13, 125	7.8	9
105	Isopentenol Utilization Pathway for the Production of Linalool in <i>Escherichia coli</i> Using an Improved Bacterial Linalool/Nerolidol Synthase. <i>ChemBioChem</i> , <b>2021</b> , 22, 2325-2334	3.8	9
104	Multifragment DNA Assembly of Biochemical Pathways via Automated Ligase Cycling Reaction. <i>Methods in Enzymology</i> , <b>2018</b> , 608, 369-392	1.7	9
103	The effect of terminal globular domains on the response of recombinant mini-spidroins to fiber spinning triggers. <i>Scientific Reports</i> , <b>2020</b> , 10, 10671	4.9	8
102	Conformational changes in the catalytic cycle of protochlorophyllide oxidoreductase: what lessons can be learnt from dihydrofolate reductase?. <i>Biochemical Society Transactions</i> , <b>2009</b> , 37, 354-7	5.1	8
101	Probing the dynamic interface between trimethylamine dehydrogenase (TMADH) and electron transferring flavoprotein (ETF) in the TMADH-2ETF complex: role of the Arg-alpha237 (ETF) and Tyr-442 (TMADH) residue pair. <i>Biochemistry</i> , <b>2008</b> , 47, 5168-81	3.2	8
100	Atomic level insight into the oxidative half-reaction of aromatic amine dehydrogenase. <i>Journal of Biological Chemistry</i> , <b>2006</b> , 281, 40264-72	5.4	8
99	A designed mutant of the enzyme glutathione reductase shortens the crystallization time by a factor of forty. <i>Acta Crystallographica Section D: Biological Crystallography</i> , <b>1994</b> , 50, 228-31		8
98	Two-electron reduction of quinones by <i>Enterobacter cloacae</i> PB2 pentaerythritol tetranitrate reductase: quantitative structure-activity relationships.. <i>Acta Biochimica Polonica</i> , <b>2007</b> , 54, 379-385	2	8
97	Taming the Reactivity of Monoterpene Synthases To Guide Regioselective Product Hydroxylation. <i>ChemBioChem</i> , <b>2020</b> , 21, 985-990	3.8	8

96	Structure of the Cannabis sativa olivetol-producing enzyme reveals cyclization plasticity in type III polyketide synthases. <i>FEBS Journal</i> , <b>2020</b> , 287, 1511-1524	5.7	8
95	A guide to time-resolved structural analysis of light-activated proteins. <i>FEBS Journal</i> , <b>2021</b> ,	5.7	8
94	Direct Evidence of an Excited-State Triplet Species upon Photoactivation of the Chlorophyll Precursor Protochlorophyllide. <i>Journal of Physical Chemistry Letters</i> , <b>2017</b> , 8, 1219-1223	6.4	7
93	Active Intermediates in Copper Nitrite Reductase Reactions Probed by a Cryotrapping-Electron Paramagnetic Resonance Approach. <i>Angewandte Chemie - International Edition</i> , <b>2020</b> , 59, 13936-13940	16.4	7
92	Pinpointing a Mechanistic Switch Between Ketoreduction and "Ene" Reduction in Short-Chain Dehydrogenases/Reductases. <i>Angewandte Chemie</i> , <b>2016</b> , 128, 9748-9752	3.6	7
91	Chemoenzymatic Synthesis of the Intermediates in the Peppermint Monoterpenoid Biosynthetic Pathway. <i>Journal of Natural Products</i> , <b>2018</b> , 81, 1546-1552	4.9	7
90	Does the pressure dependence of kinetic isotope effects report usefully on dynamics in enzyme H-transfer reactions?. <i>FEBS Journal</i> , <b>2015</b> , 282, 3243-55	5.7	7
89	Excited-State Charge Separation in the Photochemical Mechanism of the Light-Driven Enzyme Protochlorophyllide Oxidoreductase. <i>Angewandte Chemie</i> , <b>2015</b> , 127, 1532-1535	3.6	7
88	Modulation of ligand-heme reactivity by binding pocket residues demonstrated in cytochrome c' over the femtosecond-second temporal range. <i>FEBS Journal</i> , <b>2013</b> , 280, 6070-82	5.7	7
87	Assignment of the vibrational spectra of enzyme-bound tryptophan tryptophyl quinones using a combined QM/MM approach. <i>Journal of Physical Chemistry A</i> , <b>2010</b> , 114, 1212-7	2.8	7
86	Crystallization and preliminary diffraction studies of pentaerythritol tetranitrate reductase from <i>Enterobacter cloacae</i> PB2. <i>Acta Crystallographica Section D: Biological Crystallography</i> , <b>1998</b> , 54, 675-7		7
85	Tryptophan tryptophylquinone cofactor biogenesis in the aromatic amine dehydrogenase of <i>Alcaligenes faecalis</i> . Cofactor assembly and catalytic properties of recombinant enzyme expressed in <i>Paracoccus denitrificans</i> . <i>FEBS Journal</i> , <b>2005</b> , 272, 5894-909	5.7	7
84	Alternative metabolic pathways and strategies to high-titre terpenoid production in. <i>Natural Product Reports</i> , <b>2021</b> ,	15.1	7
83	Excited-State Properties of Protochlorophyllide Analogues and Implications for Light-Driven Synthesis of Chlorophyll. <i>Journal of Physical Chemistry B</i> , <b>2017</b> , 121, 1312-1320	3.4	6
82	Photochemical Spin Dynamics of the Vitamin B Derivative, Methylcobalamin. <i>Journal of Physical Chemistry B</i> , <b>2019</b> , 123, 4663-4672	3.4	6
81	Is There a Dynamic Protein Contribution to the Substrate Trigger in Coenzyme B12-Dependent Ethanolamine Ammonia Lyase?. <i>Angewandte Chemie</i> , <b>2011</b> , 123, 11035-11038	3.6	6
80	Low temperature solution behaviour of <i>Methylophilus methylotrophus</i> electron transferring flavoprotein: a study by analytical ultracentrifugation. <i>European Biophysics Journal</i> , <b>1997</b> , 25, 411-416	1.9	6
79	H-transfers in Photosystem II: what can we learn from recent lessons in the enzyme community?. <i>Photosynthesis Research</i> , <b>2008</b> , 98, 169-77	3.7	6

78	Homodimeric and expanded behaviour of trimethylamine dehydrogenase in solution at different temperatures. <i>European Biophysics Journal</i> , <b>1996</b> , 24, 159	1.9	6
77	Practical aspects on the use of kinetic isotope effects as probes of flavoprotein enzyme mechanisms. <i>Methods in Molecular Biology</i> , <b>2014</b> , 1146, 161-75	1.4	6
76	Production of the Fragrance Geraniol in Peroxisomes of a Product-Tolerant Baker's Yeast. <i>Frontiers in Bioengineering and Biotechnology</i> , <b>2020</b> , 8, 582052	5.8	6
75	Photocatalysis as the 'master switch' of photomorphogenesis in early plant development. <i>Nature Plants</i> , <b>2021</b> , 7, 268-276	11.5	6
74	Ultrafast Vibrational Energy Transfer between Protein and Cofactor in a Flavoenzyme. <i>Journal of Physical Chemistry B</i> , <b>2020</b> , 124, 5163-5168	3.4	5
73	Ene-reductases and their Applications <b>2016</b> , 473-488		5
72	Probing reversible chemistry in coenzyme B12 -dependent ethanolamine ammonia lyase with kinetic isotope effects. <i>Chemistry - A European Journal</i> , <b>2015</b> , 21, 8826-31	4.8	5
71	A conformational sampling model for radical catalysis in pyridoxal phosphate- and cobalamin-dependent enzymes. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 34161-74	5.4	5
70	Quantum mechanics/molecular mechanics studies on the mechanism of action of cofactor pyridoxal 5'-phosphate in ornithine 4,5-aminomutase. <i>Chemistry - A European Journal</i> , <b>2014</b> , 20, 11390-401	4.8	5
69	Catalysis by the isolated tryptophan tryptophylquinone-containing subunit of aromatic amine dehydrogenase is distinct from native enzyme and synthetic model compounds and allows further probing of TTQ mechanism. <i>Biochemistry</i> , <b>2008</b> , 47, 183-94	3.2	5
68	Isotope effects reveal that para-substituted benzylamines are poor reactivity probes of the quinoprotein mechanism for aromatic amine dehydrogenase. <i>Biochemistry</i> , <b>2007</b> , 46, 9250-9	3.2	5
67	Engineering nature for gaseous hydrocarbon production. <i>Microbial Cell Factories</i> , <b>2020</b> , 19, 209	6.4	5
66	Promoter engineering for microbial bio-alkane gas production. <i>Synthetic Biology</i> , <b>2020</b> , 5, ysaa022	3.3	5
65	Consolidated Bioprocessing: Synthetic Biology Routes to Fuels and Fine Chemicals. <i>Microorganisms</i> , <b>2021</b> , 9,	4.9	5
64	SYNBIOCHEM-a SynBio foundry for the biosynthesis and sustainable production of fine and speciality chemicals. <i>Biochemical Society Transactions</i> , <b>2016</b> , 44, 675-7	5.1	5
63	What are the signatures of tunnelling in enzyme-catalysed reactions?. <i>Faraday Discussions</i> , <b>2019</b> , 221, 367-378	3.6	5
62	Enzyme immobilisation on wood-derived cellulose scaffolds via carbohydrate-binding module fusion constructs. <i>Green Chemistry</i> , <b>2021</b> , 23, 4716-4732	10	5
61	The evolving art of creating genetic diversity: From directed evolution to synthetic biology. <i>Biotechnology Advances</i> , <b>2021</b> , 50, 107762	17.8	5

60	Graphene-aramid nanocomposite fibres via superacid co-processing. <i>Chemical Communications</i> , <b>2019</b> , 55, 11703-11706	5.8	4
59	Selectivity through discriminatory induced fit enables switching of NAD(P)H coenzyme specificity in Old Yellow Enzyme ene-reductases. <i>FEBS Journal</i> , <b>2019</b> , 286, 3117-3128	5.7	4
58	Active Intermediates in Copper Nitrite Reductase Reactions Probed by a Cryotrapping-Electron Paramagnetic Resonance Approach. <i>Angewandte Chemie</i> , <b>2020</b> , 132, 14040-14044	3.6	4
57	Stepwise Hydride Transfer in a Biological System: Insights into the Reaction Mechanism of the Light-Dependent Protochlorophyllide Oxidoreductase. <i>Angewandte Chemie</i> , <b>2018</b> , 130, 2712-2716	3.6	4
56	Electron transfer in trimethylamine dehydrogenase and electron-transferring flavoprotein. <i>Biochemical Society Transactions</i> , <b>1999</b> , 27, 196-201	5.1	4
55	Rubredoxin/rubredoxin reductase of <i>Pseudomonas oleovorans</i> : a model system for investigating interprotein electron transfer. <i>Biochemical Society Transactions</i> , <b>1996</b> , 24, 447S	5.1	4
54	Photocycle of Cyanobacteriochrome TePixJ. <i>Biochemistry</i> , <b>2020</b> , 59, 2909-2915	3.2	4
53	Inflammation control and improvement of cognitive function in COVID-19 infections: is there a role for kynurenine 3-monooxygenase inhibition?. <i>Drug Discovery Today</i> , <b>2021</b> , 26, 1473-1481	8.8	4
52	Advantages of brain penetrating inhibitors of kynurenine-3-monooxygenase for treatment of neurodegenerative diseases. <i>Archives of Biochemistry and Biophysics</i> , <b>2021</b> , 697, 108702	4.1	4
51	Dual role of the active site 'lid' regions of protochlorophyllide oxidoreductase in photocatalysis and plant development. <i>FEBS Journal</i> , <b>2021</b> , 288, 175-189	5.7	4
50	H, N and C backbone resonance assignments of pentaerythritol tetranitrate reductase from <i>Enterobacter cloacae</i> PB2. <i>Biomolecular NMR Assignments</i> , <b>2018</b> , 12, 79-83	0.7	4
49	Streamlining Natural Products Biomanufacturing With Omics and Machine Learning Driven Microbial Engineering. <i>Frontiers in Bioengineering and Biotechnology</i> , <b>2020</b> , 8, 608918	5.8	3
48	The influence of the structure of the Au(110) surface on the ordering of a monolayer of cytochrome P450 reductase at the Au(110)/phosphate buffer interface. <i>Physica Status Solidi (B): Basic Research</i> , <b>2014</b> , 251, 549-554	1.3	3
47	Speeding up enzyme engineering computationally. <i>IUCrJ</i> , <b>2017</b> , 4, 5-6	4.7	3
46	Protein Motions Are Coupled to the Reaction Chemistry in Coenzyme B12-Dependent Ethanolamine Ammonia Lyase. <i>Angewandte Chemie</i> , <b>2012</b> , 124, 9440-9444	3.6	3
45	Lys-D48 is required for charge stabilization, rapid flavin reduction, and internal electron transfer in the catalytic cycle of dihydroorotate dehydrogenase B of <i>Lactococcus lactis</i> . <i>Journal of Biological Chemistry</i> , <b>2006</b> , 281, 17977-88	5.4	3
44	Flavoprotein disulphide oxidoreductases: protein engineering of glutathione reductase from <i>Escherichia coli</i> . <i>Biochemical Society Transactions</i> , <b>1988</b> , 16, 84-7	5.1	3
43	Observation of the $\beta$ mechanism resulting from the ultrafast spin dynamics that follow the photolysis of coenzyme B. <i>Journal of Chemical Physics</i> , <b>2019</b> , 151, 201102	3.9	3

42	A Biological Route to Conjugated Alkenes: Microbial Production of Hepta-1,3,5-triene. <i>ACS Synthetic Biology</i> , <b>2021</b> , 10, 228-235	5.7	3
41	Design and fabrication of recombinant reflectin-based multilayer reflectors: bio-design engineering and photoisomerism induced wavelength modulation. <i>Scientific Reports</i> , <b>2021</b> , 11, 14580	4.9	3
40	Hierarchically Porous Silk/Activated-Carbon Composite Fibres for Adsorption and Repellence of Volatile Organic Compounds. <i>Molecules</i> , <b>2020</b> , 25,	4.8	2
39	Trapping methods for probing functional intermediates in nitric oxide synthases and related enzymes. <i>Frontiers in Bioscience - Landmark</i> , <b>2018</b> , 23, 1874-1888	2.8	2
38	Isotopically labeled flavoenzymes and their uses in probing reaction mechanisms. <i>Methods in Enzymology</i> , <b>2019</b> , 620, 145-166	1.7	2
37	Conformational change in cytochrome P450 reductase adsorbed at a Au(110)-phosphate buffer interface induced by interaction with nicotinamide adenine dinucleotide phosphate. <i>Physical Review E</i> , <b>2014</b> , 90, 022708	2.4	2
36	Crystallization and preliminary diffraction studies of morphinone reductase, a flavoprotein involved in the degradation of morphine alkaloids. <i>Acta Crystallographica Section D: Biological Crystallography</i> , <b>1997</b> , 53, 619-21		2
35	Making molecules with photodecarboxylases: A great start or a false dawn?. <i>Current Research in Chemical Biology</i> , <b>2022</b> , 2, 100017		2
34	Exploiting Single Domain Antibodies as Regulatory Parts to Modulate Monoterpenoid Production in. <i>ACS Synthetic Biology</i> , <b>2020</b> , 9, 2828-2839	5.7	2
33	A plasmid toolset for CRISPR-mediated genome editing and CRISPRi gene regulation in <i>Escherichia coli</i> . <i>Microbial Biotechnology</i> , <b>2021</b> , 14, 1120-1129	6.3	2
32	Blood, sweat, and tears: extraterrestrial regolith biocomposites with binders. <i>Materials Today Bio</i> , <b>2021</b> , 12, 100136	9.9	2
31	Two-electron reduction of quinones by <i>Enterobacter cloacae</i> PB2 pentaerythritol tetranitrate reductase: quantitative structure-activity relationships. <i>Acta Biochimica Polonica</i> , <b>2007</b> , 54, 379-85	2	2
30	H, N, C backbone resonance assignments of human soluble catechol O-methyltransferase in complex with S-adenosyl-L-methionine and 3,5-dinitrocatechol. <i>Biomolecular NMR Assignments</i> , <b>2017</b> , 11, 57-61	0.7	1
29	Crystal structure of [1,1'''-bis-(pyrimidin-2-yl)-4,4':2',2'':4'',4'''-quaterpyridine-1,1'''-dium- $\mu$ (2) N(1'),N(1'')]bis-[2-(pyridin-2-yl)phenyl- $\mu$ (2) N,C(1)]iridium(III) tris-(hexa-fluorido-phosphate) aceto-nitrile tris-olvate. <i>Acta Crystallographica Section E: Crystallographic Communications</i> , <b>2015</b> , 71, 879-82	0.7	1
28	Glutamate 338 is an electrostatic facilitator of C-Co bond breakage in a dynamic/electrostatic model of catalysis by ornithine aminomutase. <i>FEBS Journal</i> , <b>2015</b> , 282, 1242-55	5.7	1
27	Professor Richard Nelson Perham. <i>FEBS Journal</i> , <b>2015</b> , 282, 1349-51	5.7	1
26	Ordered multilayers of cytochrome P450 reductase adsorbed at Au(110)/phosphate buffer interfaces. <i>Physica Status Solidi (B): Basic Research</i> , <b>2015</b> , 252, 181-186	1.3	1
25	Examining the importance of dynamics, barrier compression and hydrogen tunnelling in enzyme catalysed reactions. <i>Procedia Chemistry</i> , <b>2011</b> , 3, 306-315		1

24	Enzyme mechanisms: fast reaction and computational approaches. <i>Biochemical Society Transactions</i> , <b>2009</b> , 37, 333-5	5.1	1
23	Dissection of the FMN-binding site in trimethylamine dehydrogenase. <i>Biochemical Society Transactions</i> , <b>1995</b> , 23, 509S	5.1	1
22	Distributed Biomanufacturing of Liquefied Petroleum Gas		1
21	Thermal, electrochemical and photochemical reactions involving catalytically versatile ene reductase enzymes. <i>The Enzymes</i> , <b>2020</b> , 47, 491-515	2.3	1
20	Prototyping of microbial chassis for the biomanufacturing of high-value chemical targets. <i>Biochemical Society Transactions</i> , <b>2021</b> , 49, 1055-1063	5.1	1
19	Genome Editing for the Production of Natural Products in Escherichia coli. <i>Advanced Biology</i> , <b>2018</b> , 2, 1800056	3.5	1
18	Combinatorial use of environmental stresses and genetic engineering to increase ethanol titres in cyanobacteria.. <i>Biotechnology for Biofuels</i> , <b>2021</b> , 14, 240	7.8	1
17	How Photoactivation Triggers Protochlorophyllide Reduction: Computational Evidence of a Stepwise Hydride Transfer during Chlorophyll Biosynthesis.. <i>ACS Catalysis</i> , <b>2022</b> , 12, 4141-4148	13.1	0
16	How Does Pressure Affect Barrier Compression and Isotope Effects in an Enzymatic Hydrogen Tunneling Reaction?. <i>Angewandte Chemie</i> , <b>2011</b> , 123, 2177-2180	3.6	
15	Inside Cover: Focused Directed Evolution of Pentaerythritol Tetranitrate Reductase by Using Automated Anaerobic Kinetic Screening of Site-Saturated Libraries (ChemBioChem 17/2010). <i>ChemBioChem</i> , <b>2010</b> , 11, 2326-2326	3.8	
14	Hydrogen Tunneling in Enzyme-Catalyzed Hydrogen Transfer: Aspects from Flavoprotein Catalysed Reactions	1341-1359	
13	Electron transfer in human cytochrome P450 reductase. <i>Biochemical Society Transactions</i> , <b>2001</b> , 29, A9-A9.1		
12	Enzymes in the quantum world. <i>Biochemical Society Transactions</i> , <b>2000</b> , 28, A1-A1	5.1	
11	Electron transfer in Hydroxylation: analysis of rubredoxin reductase and rubredoxin. <i>Biochemical Society Transactions</i> , <b>1999</b> , 27, A46-A46	5.1	
10	Electron transfer in trimethylamine dehydrogenase: directed mutagenesis of a potential tunneling pathway. <i>Biochemical Society Transactions</i> , <b>1996</b> , 24, 456S	5.1	
9	Protein engineering of glutathione reductase: over-expression of the gene from Escherichia coli. <i>Biochemical Society Transactions</i> , <b>1986</b> , 14, 1229-1230	5.1	
8	An unusual light-sensing function for coenzyme B in bacterial transcription regulator CarH.. <i>Methods in Enzymology</i> , <b>2022</b> , 668, 349-372	1.7	
7	In conversation with Nigel Scrutton. <i>FEBS Journal</i> , <b>2021</b> , 288, 1728-1733	5.7	

6	Professor Richard Nelson Perham, FRS, FMedSci. <i>Biochemist</i> , <b>2015</b> , 37, 58-59	0.5
5	Cytochrome c Fused Copper Nitrite Reductases1-11	
4	Flavoprotein-dependent Bioreduction <b>2021</b> , 201-223	
3	Natural Product Biosynthesis in Escherichia coli: Mentha Monoterpenoids. <i>Methods in Enzymology</i> , <b>2016</b> , 575, 247-70	1.7
2	Flavin oxidation state impacts on nitrofurantoin antibiotic binding orientation in nitroreductases. <i>Biochemical Journal</i> , <b>2021</b> , 478, 3423-3428	3.8
1	GeneORator: An Efficient Method for the Systematic Mutagenesis of Entire Genes. <i>Methods in Molecular Biology</i> , <b>2022</b> , 111-122	1.4