

# Christopher R Pudney

## List of Publications by Year in descending order

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45  
papers

1,439  
citations

361413

20  
h-index

345221

36  
g-index

47  
all docs

47  
docs citations

47  
times ranked

1479  
citing authors

#	ARTICLE	IF	CITATIONS
1	On the Temperature Dependence of Enzyme-Catalyzed Rates. <i>Biochemistry</i> , 2016, 55, 1681-1688.	2.5	233
2	Biocatalysis with Thermostable Enzymes: Structure and Properties of a Thermophilic $\alpha$ -NADH Reductase related to Old Yellow Enzyme. <i>ChemBioChem</i> , 2010, 11, 197-207.	2.6	110
3	Fast Protein Motions Are Coupled to Enzyme H-Transfer Reactions. <i>Journal of the American Chemical Society</i> , 2013, 135, 2512-2517.	13.7	83
4	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> , 2009, 131, 17072-17073.	13.7	79
5	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> , 2010, 132, 11329-11335.	13.7	74
6	$\delta$ -Secondary Isotope Effects as Probes of Tunneling-Ready Configurations in Enzymatic H-Tunneling: A Insight from Environmentally Coupled Tunneling Models. <i>Journal of the American Chemical Society</i> , 2006, 128, 14053-14058.	13.7	66
7	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> , 2007, 129, 13949-13956.	13.7	55
8	Enzyme evolution and the temperature dependence of enzyme catalysis. <i>Current Opinion in Structural Biology</i> , 2020, 65, 96-101.	5.7	54
9	Barrier Compression Enhances an Enzymatic Hydrogen Transfer Reaction. <i>Angewandte Chemie - International Edition</i> , 2009, 48, 1452-1454.	13.8	52
10	Coupled Motions Direct Electrons along Human Microsomal P450 Chains. <i>PLoS Biology</i> , 2011, 9, e1001222.	5.6	48
11	The red edge excitation shift phenomenon can be used to unmask protein structural ensembles: implications for NEMO-ubiquitin interactions. <i>FEBS Journal</i> , 2016, 283, 2272-2284.	4.7	44
12	A complete thermodynamic analysis of enzyme turnover links the free energy landscape to enzyme catalysis. <i>FEBS Journal</i> , 2017, 284, 2829-2842.	4.7	39
13	Are Environmentally Coupled Enzymatic Hydrogen Tunneling Reactions Influenced by Changes in Solution Viscosity?. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 537-540.	13.8	34
14	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> , 2012, 586, 578-584.	2.8	31
15	Structural and mechanistic aspects of flavoproteins: probes of hydrogen tunnelling. <i>FEBS Journal</i> , 2009, 276, 3930-3941.	4.7	27
16	Bipartite recognition and conformational sampling mechanisms for hydride transfer from nicotinamide coenzyme to FMN in pentaerythritol tetranitrate reductase. <i>FEBS Journal</i> , 2009, 276, 4780-4789.	4.7	24
17	Polyubiquitin Drives the Molecular Interactions of the NF- $\kappa$ B Essential Modulator (NEMO) by Allosteric Regulation. <i>Journal of Biological Chemistry</i> , 2015, 290, 14130-14139.	3.4	23
18	Parallel Pathways and Free Energy Landscapes for Enzymatic Hydride Transfer Probed by Hydrostatic Pressure. <i>ChemBioChem</i> , 2009, 10, 1379-1384.	2.6	22

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19	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> , 2008, 36, 16-21.	3.4	21
20	Enzymatic Single-Molecule Kinetic Isotope Effects. <i>Journal of the American Chemical Society</i> , 2013, 135, 3855-3864.	13.7	21
21	Steady-State Kinetics of $\hat{1}\pm$ -Synuclein Ferrireductase Activity Identifies the Catalytically Competent Species. <i>Biochemistry</i> , 2017, 56, 2497-2505.	2.5	21
22	Conformation control of the histidine kinase BceS of <i>Bacillus subtilis</i> by its cognate ABC-transporter facilitates need-based activation of antibiotic resistance. <i>Molecular Microbiology</i> , 2021, 115, 157-174.	2.5	20
23	Sensing Enzyme Activation Heat Capacity at the Single-Molecule Level Using Gold-Nanorod-Based Optical Whispering Gallery Modes. <i>ACS Applied Nano Materials</i> , 2021, 4, 4576-4583.	5.0	20
24	Change in heat capacity accurately predicts vibrational coupling in enzyme catalyzed reactions. <i>FEBS Letters</i> , 2015, 589, 2200-2206.	2.8	19
25	Kinetic and spectroscopic probes of motions and catalysis in the cytochrome P450 reductase family of enzymes. <i>FEBS Journal</i> , 2012, 279, 1534-1544.	4.7	18
26	Excited State Dynamics Can Be Used to Probe Donor-Acceptor Distances for H-Tunneling Reactions Catalyzed by Flavoproteins. <i>Biophysical Journal</i> , 2013, 105, 2549-2558.	0.5	17
27	Solvent as a Probe of Active Site Motion and Chemistry during the Hydrogen Tunnelling Reaction in Morphinone Reductase. <i>ChemPhysChem</i> , 2008, 9, 1875-1881.	2.1	16
28	Probing active site geometry using high pressure and secondary isotope effects in an enzyme-catalysed $\hat{1}\pm$ -tunnelling reaction. <i>Journal of Physical Organic Chemistry</i> , 2010, 23, 696-701.	1.9	16
29	Rigidifying a <i>De Novo</i> Enzyme Increases Activity and Induces a Negative Activation Heat Capacity. <i>ACS Catalysis</i> , 2021, 11, 11532-11541.	11.2	15
30	Uncovering the Relationship between the Change in Heat Capacity for Enzyme Catalysis and Vibrational Frequency through Isotope Effect Studies. <i>ACS Catalysis</i> , 2018, 8, 5340-5349.	11.2	13
31	Synthetic Cannabinoid Receptor Agonists Detection Using Fluorescence Spectral Fingerprinting. <i>Analytical Chemistry</i> , 2019, 91, 12971-12979.	6.5	13
32	Monoclonal antibody stability can be usefully monitored using the excitation-energy-dependent fluorescence edge-shift. <i>Biochemical Journal</i> , 2020, 477, 3599-3612.	3.7	13
33	Exposing the Interplay Between Enzyme Turnover, Protein Dynamics, and the Membrane Environment in Monoamine Oxidase B. <i>Biochemistry</i> , 2019, 58, 2362-2372.	2.5	12
34	Analysis of synthetic cannabinoid agonists and their degradation products after combustion in a smoking simulator. <i>Analytical Methods</i> , 2019, 11, 3101-3107.	2.7	10
35	Structure and <i>in silico</i> simulations of a cold-active esterase reveals its prime cold-adaptation mechanism. <i>Open Biology</i> , 2021, 11, 210182.	3.6	10
36	Correction of Pre-Steady-State KIEs for Isotopic Impurities and the Consequences of Kinetic Isotope Fractionation. <i>Journal of Physical Chemistry A</i> , 2008, 112, 13109-13115.	2.5	9

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37	Molecular Rules Underpinning Enhanced Affinity Binding of Human T Cell Receptors Engineered for Immunotherapy. <i>Molecular Therapy - Oncolytics</i> , 2020, 18, 443-456.	4.4	9
38	Excitation-Energy-Dependent Molecular Beacon Detects Early Stage Neurotoxic A $\beta$ 2 Aggregates in the Presence of Cortical Neurons. <i>ACS Chemical Neuroscience</i> , 2019, 10, 1240-1250.	3.5	8
39	Reliable <i>In Silico</i> Ranking of Engineered Therapeutic TCR Binding Affinities with MMPB/GBSA. <i>Journal of Chemical Information and Modeling</i> , 2022, 62, 577-590.	5.4	8
40	Modelling flavoenzymatic charge transfer events: development of catalytic indole deuteration strategies. <i>Organic and Biomolecular Chemistry</i> , 2016, 14, 3787-3792.	2.8	6
41	Peptide cargo tunes a network of correlated motions in human leucocyte antigens. <i>FEBS Journal</i> , 2020, 287, 3777-3793.	4.7	6
42	Practical Aspects on the Use of Kinetic Isotope Effects as Probes of Flavoprotein Enzyme Mechanisms. <i>Methods in Molecular Biology</i> , 2014, 1146, 161-175.	0.9	6
43	Chemical Mapping Exposes the Importance of Active Site Interactions in Governing the Temperature Dependence of Enzyme Turnover. <i>ACS Catalysis</i> , 2021, 11, 14854-14863.	11.2	6
44	Switching protein metalloporphyrin binding specificity by design from iron to fluorogenic zinc. <i>Chemical Communications</i> , 2020, 56, 4308-4311.	4.1	4
45	Flavin mimetics: Synthesis and photophysical properties. <i>Tetrahedron</i> , 2021, 82, 131925.	1.9	3