

# Christopher M Topham

## List of Publications by Year in descending order

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59  
papers

2,429  
citations

304743  
22  
h-index

206112  
48  
g-index

59  
all docs

59  
docs citations

59  
times ranked

2258  
citing authors

#	ARTICLE	IF	CITATIONS
1	An engineered PET depolymerase to break down and recycle plastic bottles. <i>Nature</i> , 2020, 580, 216-219.	27.8	913
2	Prediction of the stability of protein mutants based on structural environment-dependent amino acid substitution and propensity tables. <i>Protein Engineering, Design and Selection</i> , 1997, 10, 7-21.	2.1	191
3	Fragment Ranking in Modelling of Protein Structure. <i>Journal of Molecular Biology</i> , 1993, 229, 194-220.	4.2	119
4	Comparative modelling of major house dust mite allergen Der p I: structure validation using an extended environmental amino acid propensity table. <i>Protein Engineering, Design and Selection</i> , 1994, 7, 869-894.	2.1	82
5	Molecular modelling of the ORL1 receptor and its complex with nociceptin. <i>Protein Engineering, Design and Selection</i> , 1998, 11, 1163-1179.	2.1	75
6	Structure-function relationships in the cysteine proteinases actinidin, papain and papaya proteinase I $\alpha$ . Three-dimensional structure of papaya proteinase I $\alpha$ deduced by knowledge-based modelling and active-centre characteristics determined by two-hydronic-state reactivity probe kinetics and kinetics of catalysis. <i>Biochemical Journal</i> , 1991, 280, 79-92.	3.7	56
7	The nociceptin (ORL1) receptor: molecular cloning and functional architecture. <i>Peptides</i> , 2000, 21, 893-900.	2.4	55
8	Functional Inactivation of the Nociceptin Receptor by Alanine Substitution of Glutamine 286 at the C Terminus of Transmembrane Segment VI: Evidence from a Site-Directed Mutagenesis Study of the ORL1 Receptor Transmembrane-Binding Domain. <i>Molecular Pharmacology</i> , 2000, 57, 495-502.	2.3	52
9	Role of Glycoside Phosphorylases in Mannose Foraging by Human Gut Bacteria. <i>Journal of Biological Chemistry</i> , 2013, 288, 32370-32383.	3.4	50
10	Construction of a synthetic metabolic pathway for biosynthesis of the non-natural methionine precursor 2,4-dihydroxybutyric acid. <i>Nature Communications</i> , 2017, 8, 15828.	12.8	50
11	A polyclonal antibody preparation with Michaelian catalytic properties. <i>Biochemical Journal</i> , 1991, 279, 871-881.	3.7	48
12	Ionization characteristics of the Cys-25/His-159 interactive system and of the modulatory group of papain: resolution of ambiguity by electronic perturbation of the quasi-2-mercaptopyridine leaving group in a new pyrimidyl disulphide reactivity probe. <i>Biochemical Journal</i> , 1993, 290, 289-296.	3.7	47
13	Supracrystallographic resolution of interactions contributing to enzyme catalysis by use of natural structural variants and reactivity-probe kinetics. <i>Biochemical Journal</i> , 1988, 256, 543-558.	3.7	44
14	Chemical modification of sheep-liver 6-phosphogluconate dehydrogenase by diethylpyrocarbonate. Evidence for an essential histidine residue. <i>FEBS Journal</i> , 1986, 155, 87-94.	0.2	36
15	A generalized theoretical treatment of the kinetics of an enzyme-catalysed reaction in the presence of an unstable irreversible modifier. <i>Journal of Theoretical Biology</i> , 1990, 145, 547-572.	1.7	36
16	Identification of signalling and non-signalling binding contributions to enzyme reactivity. Alternative combinations of binding interactions provide for change in transition-state geometry in reactions of papain. <i>Biochemical Journal</i> , 1989, 258, 755-764.	3.7	34
17	The interplay of electrostatic fields and binding interactions determining catalytic-site reactivity in actinidin. A possible origin of differences in the behaviour of actinidin and papain. <i>Biochemical Journal</i> , 1989, 259, 443-452.	3.7	34
18	Characterization of the Electrostatic Perturbation of a Catalytic Site (Cys)-S $\alpha$ €“(His)-Im+H Ion-pair in One Type of Serine Proteinase Architecture by Kinetic and Computational Studies on Chemically Mutated Subtilisin Variants. <i>Journal of Molecular Biology</i> , 1996, 257, 1088-1111.	4.2	32

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19	Construction of a synthetic pathway for the production of 1,3-propanediol from glucose. Scientific Reports, 2019, 9, 11576.	3.3	29
20	A general kinetic equation for multihydronic state reactions and rapid procedures for parameter evaluation. Biochemical Society Transactions, 1990, 18, 598-600.	3.4	25
21	Structure of chymopapain M the late-eluted chymopapain deduced by comparative modelling techniques and active-centre characteristics determined by pH-dependent kinetics of catalysis and reactions with time-dependent inhibitors: the Cys-25/His-159 ion-pair is insufficient for catalytic competence in both chymopapain M and papain. Biochemical Journal, 1994, 300, 805-820.	3.7	24
22	Direct Identification of a Peptide Binding Region in the Opioid Receptor-like 1 Receptor by Photoaffinity Labeling with [Bpa10,Tyr14]Nociceptin. Journal of Biological Chemistry, 2000, 275, 29268-29274.	3.4	24
23	Probing impact of active site residue mutations on stability and activity of <i>Neisseria polysaccharea</i> amylosucrase. Protein Science, 2013, 22, 1754-1765.	7.6	23
24	Dependence of the P2-S2 stereochemical selectivity of papain on the nature of the catalytic-site chemistry. Quantification of selectivity in the catalysed hydrolysis of the enantiomeric N-acetylphenylalanylglycine 4-nitroanilides. Biochemical Journal, 1990, 266, 653-660.	3.7	21
25	In defence of the general validity of the Cha method of deriving rate equations. The importance of explicit recognition of the thermodynamic box in enzyme kinetics. Biochemical Journal, 1992, 282, 261-265.	3.7	21
26	Kinetic studies of 6-phosphogluconate dehydrogenase from sheep liver. FEBS Journal, 1986, 156, 555-567.	0.2	19
27	The interplay of electrostatic and binding interactions determining active centre chemistry and catalytic activity in actinidin and papain. Biochemical Journal, 1989, 257, 309-310.	3.7	18
28	Polyclonal-antibody-catalysed hydrolysis of an aryl nitrophenyl carbonate. Biochemical Society Transactions, 1990, 18, 600-601.	3.4	18
29	Orientation Preferences of Backbone Secondary Amide Functional Groups in Peptide Nucleic Acid Complexes: Quantum Chemical Calculations Reveal an Intrinsic Preference of Cationic D-Amino Acid-Based Chiral PNA Analogues for the P-form. Biophysical Journal, 2007, 92, 769-786.	0.5	18
30	Chemical modification of enzymes: reaction with an unstable inhibitor. Biochemical Journal, 1985, 227, 1025-1027.	3.7	17
31	Kinetic parameters of the acyl-enzyme mechanism and conditions for quasi-equilibrium and for optimal catalytic characteristics. Biochemical Journal, 1990, 270, 561-563.	3.7	16
32	Kinetic and Titration Methods for Determination of Active Site Contents of Enzyme and Catalytic Antibody Preparations. Methods, 2001, 24, 153-167.	3.8	16
33	A re-appraisal of the structural basis of stereochemical recognition in papain. Insensitivity of binding-site-catalytic-site signalling to P2-chirality in a time-dependent inhibition. Biochemical Journal, 1990, 266, 645-651.	3.7	15
34	A general kinetic approach to investigation of active-site availability in macromolecular catalysts. Biochemical Journal, 2000, 346, 117-125.	3.7	15
35	Computer simulations of the kinetics of irreversible enzyme inhibition by an unstable inhibitor. Biochemical Journal, 1986, 240, 817-820.	3.7	14
36	The chemical mechanism of sheep liver 6-phosphogluconate dehydrogenase. A Schiff-base intermediate is not involved. Biochemical Journal, 1986, 234, 671-677.	3.7	13

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37	Rational engineering of a malate dehydrogenase for microbial production of 2,4-dihydroxybutyric acid via homoserine pathway. <i>Biochemical Journal</i> , 2018, 475, 3887-3901.	3.7	12
38	An Atomistic Statistically Effective Energy Function for Computational Protein Design. <i>Journal of Chemical Theory and Computation</i> , 2016, 12, 4146-4168.	5.3	11
39	Alternative methods for the determination of rate constants describing enzyme inactivation by an unstable inhibitor. <i>Biochemical Journal</i> , 1987, 246, 804-806.	3.7	10
40	An assessment of COMPOSER: a rule-based approach to modelling protein structure. <i>Biochemical Society Symposia</i> , 1990, 57, 1-9.	2.7	10
41	The influence of helix morphology on co-operative polyamide backbone conformational flexibility in peptide nucleic acid complexes 1 Edited by I. Tinoco. <i>Journal of Molecular Biology</i> , 1999, 292, 1017-1038.	4.2	9
42	The Kinetic Basis of a General Method for the Investigation of Active Site Content of Enzymes and Catalytic Antibodies: First-Order Behaviour under Single-turnover and Cycling Conditions. <i>Journal of Theoretical Biology</i> , 2000, 204, 239-256.	1.7	8
43	Half-time analysis of the kinetics of irreversible enzyme inhibition by an unstable site-specific reagent. <i>BBA - Proteins and Proteomics</i> , 1988, 955, 65-76.	2.1	7
44	Tri-peptide reference structures for the calculation of relative solvent accessible surface area in protein amino acid residues. <i>Computational Biology and Chemistry</i> , 2015, 54, 33-43.	2.3	7
45	Three-dimensional structure of a B-type chymopapain. <i>Biochemical Society Transactions</i> , 1990, 18, 933-934.	3.4	6
46	Some classical errors in the kinetic analysis of enzyme reactions. <i>Biochemical Journal</i> , 1993, 295, 898-899.	3.7	6
47	A general kinetic approach to investigation of active-site availability in macromolecular catalysts. <i>Biochemical Journal</i> , 2000, 346, 117.	3.7	6
48	Ill-conditioning associated with the "end-point" method for the determination of kinetic parameters describing irreversible enzyme inactivation by an unstable inhibitor. <i>Journal of Theoretical Biology</i> , 1988, 135, 169-173.	1.7	4
49	Investigation of mechanistic consequences of natural structural variation within the cysteine proteinases by knowledge-based modelling and kinetic methods. <i>Biochemical Society Transactions</i> , 1990, 18, 579-580.	3.4	4
50	Three-dimensional structure and thiol reactivity characteristics of chymopapain M (papaya proteinase) Tj ETQq0 0 Q rgBT /Overlock 10 T	3.4	4
51	Peptide nucleic acid Hoogsteen strand linker design for major groove recognition of DNA thymine bases. <i>Journal of Computer-Aided Molecular Design</i> , 2021, 35, 355-369.	2.9	4
52	Extracellular Cellulase Production by <i>Sporocytophaga myxococcoides</i> NCIB 8639. <i>Microbiology (United Kingdom)</i> , 1980, 117, 235-241.	1.8	4
53	A general kinetic approach to investigation of active-site availability in macromolecular catalysts. <i>Biochemical Journal</i> , 2000, 346 Pt 1, 117-25.	3.7	4
54	On the spatial disposition of the fifth transmembrane helix and the structural integrity of the transmembrane binding site in the opioid and ORL1 G protein-coupled receptor family. <i>Protein Engineering, Design and Selection</i> , 2000, 13, 477-490.	2.1	3

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55	A generic HTS assay for kinase screening: Validation for the isolation of an engineered malate kinase. PLoS ONE, 2018, 13, e0193036.	2.5	3
56	Making sense of the kinetics of reactions of unstable modifiers with enzymes. Biochemical Journal, 1992, 287, 334-335.	3.7	2
57	Force field development and conformational search strategy in the simulation of biomolecular recognition processes. Biochemical Society Transactions, 1996, 24, 268-274.	3.4	2
58	Adaptive Smith-Waterman residue match seeding for protein structural alignment. Proteins: Structure, Function and Bioinformatics, 2013, 81, 1823-1839.	2.6	2
59	ACTINIDIN AND CHYMOPAPAIN B PROVIDE VARIATION IN THE COMMON ELECTROSTATIC ENVIRONMENT OF GLU50 IN PAPAIN AND CARICAIN. Biochemical Society Transactions, 1997, 25, 89S-89S.	3.4	1