Athel Cornish-bowden

List of Publications by Year
in descending order

131 papers	8,854 citations	60835 43 h-index	44509 91 g-index
166 all docs	166 docs citations	166 times ranked	6736 citing authors

#	Article	IF	Citations
1	The essence of life revisited: how theories can shed light on it. Theory in Biosciences, 2022, 141, 105-123.	1.5	6
2	Zacharias Dische and the discovery of feedback inhibition: A landmark paper published in the forerunner of Biochimie. Biochimie, 2021, 182, 120-130.	2.9	2
3	Contrasting theories of life: Historical context, current theories. In search of an ideal theory. BioSystems, 2020, 188, 104063.	2.0	53
4	Hidden Concepts in the History and Philosophy of Origins-of-Life Studies: a Workshop Report. Origins of Life and Evolution of Biospheres, 2019, 49, 111-145.	2.0	21
5	Rosennean Complexity and its relevance to ecology. Ecological Complexity, 2018, 35, 13-24.	3.0	16
6	Life before LUCA. Journal of Theoretical Biology, 2017, 434, 68-74.	1.7	42
7	Enthalpyâ€“entropy compensation and the isokinetic temperature in enzyme catalysis. Journal of Biosciences, 2017, 42, 665-670.	1.8	19
8	Lynn Margulis and the origin of the eukaryotes. Journal of Theoretical Biology, 2017, 434, 1.	1.7	8
9	Evolution of Negative Cooperativity in Glutathione Transferase Enabled Preservation of Enzyme Function. Journal of Biological Chemistry, 2016, 291, 26739-26749.	3.5	27
10	Time flies like an arrow: Fruit flies like a banana. Perspectives in Science, 2015, 6, 113-120.	0.6	0
11	Tibor GÃ¡nti and Robert Rosen: Contrasting approaches to the same problem. Journal of Theoretical Biology, 2015, 381, 6-10.	1.7	13
12	One hundred years of Michaelisâ€“Menten kinetics. Perspectives in Science, 2015, 4, 3-9.	0.6	129
13	Victor Henri: 111 years of his equation. Biochimie, 2014, 107, 161-166.	2.9	12
14	Biochemistry and evolutionary biology: Two disciplines that need each other. Journal of Biosciences, 2014, 39, 13-27.	1.8	6
15	Analytical Kinetic Modeling: A Practical Procedure. Methods in Molecular Biology, 2014, 1090, 261-280.	0.0	3
16	Standards for Reporting Enzyme Data: The STRENDA Consortium: What it aims to do and why it should be helpful. Perspectives in Science, 2014, 1, 131-137.	0.6	71
17	Current IUBMB recommendations on enzyme nomenclature and kinetics. Perspectives in Science, 2014, 1, 74-87.	0.6	79
18	Subunit interactions in pig-kidney fructose-1,6-bisphosphatase: Binding of substrate induces a second class of site with lowered affinity and catalytic activity. Biochimica Et Biophysica Acta - General Subjects, 2014, 1840, 1798-1807.	2.5	3

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19	Quo Vadis, enzymology data? Introductory remarks. Perspectives in Science, 2014, 1, 1-6.	0.6	3
20	Analysis and interpretation of enzyme kinetic data. Perspectives in Science, 2014, 1, 121-125.	0.6	23
21	Curbing the excesses of low demand. Nature, 2013, 500, 157-158.	36.2	4
22	Simulating a Model of Metabolic Closure. Biological Theory, 2013, 8, 383-390.	1.5	24
23	The physiological significance of negative cooperativity revisited. Journal of Theoretical Biology, 2013, 319, 144-147.	1.7	14
24	Enthalpyâ€“Entropy Compensation as Deduced from Measurements of Temperature Dependence. , 2012, , 33-43.		4
25	Viability Conditions for a Compartmentalized Protometabolic System: A Semi-Empirical Approach. PLoS ONE, 2012, 7, e39480.	2.5	23
26	Size matters: Influence of stochasticity on the self-maintenance of a simple model of metabolic closure. Journal of Theoretical Biology, 2012, 300, 143-151.	1.7	12
27	From L'Homme Machine to metabolic closure: Steps towards understanding life. Journal of Theoretical Biology, 2011, 286, 100-113.	1.7	72
28	Recommendations for terminology and databases for biochemical thermodynamics. Biophysical Chemistry, 2011, 155, 89-103.	2.9	58
29	Closure to efficient causation, computability and artificial life. Journal of Theoretical Biology, 2010, 263, 79-92.	1.7	50
30	A large-scale protein-function database. Nature Chemical Biology, 2010, 6, 785-785.	8.0	22
31	Specificity of Non-Michaelisâ^'Menten Enzymes: Necessary Information for Analyzing Metabolic Pathways. Journal of Physical Chemistry B, 2010, 114, 16209-16213.	2.7	34
32	Professor Robert A. Albertyâ€"A Legacy of Excellence. Journal of Physical Chemistry B, 2010, 114, 16045-16046.	2.7	3
33	A Simple Self-Maintaining Metabolic System: Robustness, Autocatalysis, Bistability. PLoS Computational Biology, 2010, 6, e1000872.	3.1	53
34	Understanding the regulation of aspartate metabolism using a model based on measured kinetic parameters. Molecular Systems Biology, 2009, 5, 271.	7.5	107
35	A weak link in metabolism: the metabolic capacity for glycine biosynthesis does not satisfy the need for collagen synthesis. Journal of Biosciences, 2009, 34, 853-872.	1.8	107
36	Reinhart Heinrich (1946â€“2006): An annotated bibliography. Journal of Theoretical Biology, 2008, 252, 379-387.	1.7	3

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37	Monitoring the energy status of a living organism in real time. Journal of Biosciences, 2008, 33, 629-630.	1.8	0
38	Reinhart Heinrich (1946â€“2006). Journal of Theoretical Biology, 2008, 252, 377-378.	1.7	1
39	Self-organization at the origin of life. Journal of Theoretical Biology, 2008, 252, 411-418.	1.7	40
40	Organizational Invariance in (M,R)â€Systems. Chemistry and Biodiversity, 2007, 4, 2396-2406.	2.2	25
41	Beyond reductionism: Metabolic circularity as a guiding vision for a real biology of systems. Proteomics, 2007, 7, 839-845.	3.0	63
42	Synergy between verapamil and other multidrug-resistance modulators in model membranes. Journal of Biosciences, 2007, 32, 737-746.	1.8	10
43	The threat from creationism to the rational teaching of biology. Biological Research, 2007, 40, 113-22.	3.6	26
44	Putting the Systems Back into Systems Biology. Perspectives in Biology and Medicine, 2006, 49, 475-489.	0.5	42
45	Organizational invariance and metabolic closure: Analysis in terms of systems. Journal of Theoretical Biology, 2006, 238, 949-961.	1.7	121
46	The importance of uniformity in reporting protein-function data. Trends in Biochemical Sciences, 2005, 30, 11-12.	7.5	22
47	Enzymes in context: Kinetic characterization of enzymes for systems biology. Biochemist, 2005, 27, 11-14.	0.5	15
48	Understanding the parts in terms of the whole. Biology of the Cell, 2004, 96, 713-717.	2.0	43
49	Metabolic analysis in drug design. Comptes Rendus - Biologies, 2003, 326, 509-515.	0.3	20
50	Stoicheiometric analysis in studies of metabolism. Biochemical Society Transactions, 2002, 30, 43-46.	3.4	3
51	The Role of Stoichiometric Analysis in Studies of Metabolism: An Example. Journal of Theoretical Biology, 2002, 216, 179-191.	1.7	31
52	Enthalpyâ€”entropy compensation: a phantom phenomenon. Journal of Biosciences, 2002, 27, 121-126.	1.8	220
53	Metabolic balance sheets. Nature, 2002, 420, 129-130.	36.2	15
54	Modulation of metabolite concentrations with no net effect on fluxes. Molecular Biology Reports, 2002, 29, 17-20.	2.4	3

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55	Detection of Errors of Interpretation in Experiments in Enzyme Kinetics. Methods, 2001, 24, 181-190.	3.9	38
56	Relationships between inhibition constants, inhibitor concentrations for 50% inhibition and types of inhibition: new ways of analysing data. Biochemical Journal, 2001, 357, 263.	3.8	80
57	Relationships between inhibition constants, inhibitor concentrations for 50% inhibition and types of inhibition: new ways of analysing data. Biochemical Journal, 2001, 357, 263-268.	3.8	152
58	Silent genes given voice. Nature, 2001, 409, 571-572.	36.2	37
59	Complex networks of interactions connect genes to phenotypes. Trends in Biochemical Sciences, 2001, 26, 463-465.	7.5	20
60	Kinetics of Multiâ€Enzyme Systems. , 2001, , 121-136.		3
61	From genome to cellular phenotypeâ€"a role for metabolic flux analysis?. Nature Biotechnology, 2000, 18, 267-268.	20.8	52
62	Computer Simulation as A Tool for Studying Metabolism and Drug Design. , 2000, , 165-172.		6
63	Metabolic complexity has no bearing on genetic determinism. Behavioral and Brain Sciences, 1999, 22, 889-890.	0.7	0
64	Two centuries of catalysis. Journal of Biosciences, 1998, 23, 87-92.	1.8	2
65	Evolution and regulatory role of the hexokinases. Biochimica Et Biophysica Acta - Molecular Cell Research, 1998, 1401, 242-264.	4.1	264
66	Prospects for Antiparasitic Drugs. Journal of Biological Chemistry, 1998, 273, 5500-5505.	3.5	66
67	Generalization of the double-modulation method for in situ determination of elasticities. Biochemical Journal, 1997, 327, 217-223.	3.8	10
68	Extending Double Modulation: Combinatorial Rules for Identifying the Modulations Necessary for Determining Elasticities in Metabolic Pathways. Journal of Theoretical Biology, 1996, 182, 361-369.	1.7	11
69	Co-response Analysis: A New Experimental Strategy for Metabolic Control Analysis. Journal of Theoretical Biology, 1996, 182, 371-380.	1.7	51
70	Metabolic Control Analysis in Theory and Practice. Advances in Molecular and Cell Biology, 1995, 11, 21-64.	0.1	26
71	Kinetics of Multiâ€Enzyme Systems. , 1995, , 121-136.		11
72	Kinetic implications of metabolite channelling in Î²-oxidation. Biochemical Society Transactions, 1994, 22, 451-454.	3.4	1

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73	The pH dependence of the apparent equilibrium constant, Kâ€², of a biochemical reaction. Trends in Biochemical Sciences, 1993, 18, 288-291.	7.5	21
74	A Control Analysis of Metabolic Regulation. , 1993, , 193-198.		1
75	Cornish-Bowden and CÃ¡rdenas reply. Trends in Biochemical Sciences, 1992, 17, 59.	7.5	1
76	Hexokinase and â€˜glucokinaseâ€™ in liver metabolism. Trends in Biochemical Sciences, 1991, 16, 281-282.	7.5	29
77	How much effect on free metabolite concentrations does channelling have?. Journal of Theoretical Biology, 1991, 152, 39-40.	1.7	4
78	Parameter estimating procedures for the Michaelis-Menten model: Reply to Tseng and Hsu. Journal of Theoretical Biology, 1991, 153, 437-440.	1.7	6
79	MetaModel: a program for modelling and control analysis of metabolic pathways on the IBM PC and compatibles. Bioinformatics, 1991, 7, 89-93.	4.2	22
80	Properties Needed for the Enzymes of an Interconvertible Cascade to Generate a Highly Sensitive Response. , 1990, , 195-207.		6
81	The Nature and Role of Theory in Metabolic Control. , 1990, , 31-40.		5
82	Metabolic control theory and biochemical systems theory: Different objectives, different assumptions, different results. Journal of Theoretical Biology, 1989, 136, 365-377.	1.7	34
83	Nonequilibrium Isotope Exchange Methods for Investigating Enzyme Mechanisms. Current Topics in Cellular Regulation, 1989, 30, 143-169.	0.0	2
84	Saturation functions as a nested set. Journal of Theoretical Biology, 1988, 130, 125-126.	1.7	2
85	Significance of the purine-pyrimidine motif present in most gene groups. Journal of Theoretical Biology, 1988, 134, 1-7.	1.7	1
86	Convergent evolution of lysozyme sequences?. Nature, 1988, 332, 787-788.	36.2	6
87	Co-operativity in monomeric enzymes. Journal of Theoretical Biology, 1987, 124, 1-23.	1.7	86
88	The time dimension in steady-state kinetic: A simplified representation of control coefficients. Biochemical Education, 1987, 15, 144-146.	0.2	8
89	Dominance is not Inevitable. Journal of Theoretical Biology, 1987, 125, 333-338.	1.7	36
90	Why are enzymes so small? or why do biochemists ask â€˜why are enzymes so big?â€™. Trends in Biochemical Sciences, 1986, 11, 286.	7.5	2

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91	The definition of â€˜peptidaseâ€™. Biochemical Journal, 1985, 231, 808-808.	3.8	3
92	Eukaryotic genes: Are introns structural elements or evolutionary debris?. Nature, 1985, 313, 434-435.	36.2	22
93	Nomenclature for incompletely specified bases in nucleic acid sequences: rcommendations 1984. Nucleic Acids Research, 1985, 13, 3021-3030.	14.0	459
94	Effect of glycerol on glucokinase activity: Loss of cooperative behavior with respect to glucose. Archives of Biochemistry and Biophysics, 1985, 237, 328-334.	3.2	10
95	Molecular biology: No introns in insect globin genes. Nature, 1984, 310, 724-724.	36.2	3
96	Enzyme specificity: Its meaning in the general case. Journal of Theoretical Biology, 1984, 108, 451-457.	1.7	27
97	Enzyme kinetics calculations - The direct linear plot procedure. Journal of Chemical Education, 1984, 61, 527.	2.4	3
98	The prediction of repetitive protein sequences from amino acid compositions: a comment. Biochemical Journal, 1984, 217, 340-340.	3.8	1
99	Rat-Liver Glucokinase as a Mnemonical Enzyme. , 1984, , 29-41.		3
100	Phenetic methods of classification use information that is disregarded by minimum-length methods. Journal of Theoretical Biology, 1983, 101, 317-319.	1.7	7
101	Metabolic efficiency: Is it a useful concept?. Biochemical Society Transactions, 1983, 11, 44-45.	3.4	14
102	[9] Relating proteins by amino acid composition. Methods in Enzymology, 1983, 91, 60-75.	1.7	151
103	Unusual solvent isotope effects on the glucokinase reaction. Biochemical Society Transactions, 1982, 10, 451-452.	3.4	2
104	Mechanism of liver glucokinase. Molecular and Cellular Biochemistry, 1982, 44, 71-80.	3.1	32
105	Related genes can have unrelated introns. Nature, 1982, 297, 625-626.	36.2	10
106	Isotope-exchange evidence for an ordered mechanism for rat-liver glucokinase, a monomeric cooperative enzyme. Biochemistry, 1981, 20, 499-506.	2.6	47
107	Robust Estimation in Enzyme Kinetics. , 1981, , 105-119.		8
108	Interpretation of amino acid compositions. Trends in Biochemical Sciences, 1981, 6, 217-219.	7.5	22

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109	Measurement of flux ratios as a probe of enzyme mechanisms. Trends in Biochemical Sciences, 1981, 6, 149-150.	7.5	6
110	Isotope-exchange evidence for allosteric regulation of hexokinase II by glucose 6-phosphate and for an obligatory addition of substrates. Biochemical Society Transactions, 1981, 9, 62-63.	3.4	7
111	MECHANISTIC STUDIES OF RAT MUSCLE HEXOKINASE II. Biochemical Society Transactions, 1981, 9, 158P-158P.	3.4	1
112	ROBUST ESTIMATION OF ENZYME KINETIC PARAMETERS. Biochemical Society Transactions, 1981, 9, 321P-321P.	3.4	0
113	Critical values for testing the significance of amino acid composition indexes. Analytical Biochemistry, 1980, 105, 233-238.	2.5	71
114	How reliably do amino acid composition comparisons predict sequence similarities between proteins?. Journal of Theoretical Biology, 1979, 76, 369-386.	1.7	69
115	Interpretation of the difference index as a guide to protein sequence identity. Journal of Theoretical Biology, 1978, 74, 155-161.	1.7	16
116	Evaluation of distribution-free confidence limits for enzyme kinetic parameters. Journal of Theoretical Biology, 1978, 74, 163-175.	1.7	82
117	Estimation of Michaelis constant and maximum velocity from the direct linear plot. Biochimica Et Biophysica Acta - Biomembranes, 1978, 523, 268-272.	2.7	178
118	Amino Acid Compositions Provide a Reliable Guide to Sequence Similarities. Biochemical Society Transactions, 1978, 6, 767-768.	3.4	1
119	Assessment of protein sequence identity from amino acid composition data. Journal of Theoretical Biology, 1977, 65, 735-742.	1.7	82
120	Evaluation of the non-randomness of protein compositions. Journal of Molecular Evolution, 1977, 10, 231-240.	1.9	13
121	The effect of natural selection on enzymic catalysis. Journal of Molecular Biology, 1976, 101, 1-9.	4.3	95
122	The physiological significance of negative co-operativity. Journal of Theoretical Biology, 1975, 51, 233-235.	1.7	14
123	Diagnostic uses of the Hill (logit and Nernst) plots. Journal of Molecular Biology, 1975, 95, 201-212.	4.3	198
124	The direct linear plot. A new graphical procedure for estimating enzyme kinetic parameters. Biochemical Journal, 1974, 139, 715-720.	3.8	1,530
125	A simple graphical method for determining the inhibition constants of mixed, uncompetitive and non-competitive inhibitors (Short Communication). Biochemical Journal, 1974, 137, 143-144.	3.8	872
126	Statistical considerations in the estimation of enzyme kinetic parameters by the direct linear plot and other methods. Biochemical Journal, 1974, 139, 721-730.	3.8	374

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127	The kinetics of coupled enzyme reactions. Applications to the assay of glucokinase, with glucose 6-phosphate dehydrogenase as coupling enzyme. Biochemical Journal, 1974, 141, 205-209.	3.8	147
128	Kinetics of the hydrolysis of N-benzoyl-l-serine methyl ester catalysed by bromelain and by papain. Analysis of modifier mechanisms by lattice nomography, computational methods of parameter evaluation for substrate-activated catalyses and consequences of postulated non-productive binding in bromelain- and papain-catalysed hydrolyses. Biochemical Journal, 1974, 141, 365-381.	3.8	41
129	The Influence of Binding Domains on the Nature of Subunit Interactions in Oligomeric Proteins. Journal of Biological Chemistry, 1970, 245, 6241-6250.	3.5	52
130	Biochemical Evolution. , 0, , .		6
131	Kinetics, Enzymes. , 0, , 1-14.		0