

Kenneth A Johnson

List of Publications by Year in descending order

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114
papers

9,991
citations

50276

46
h-index

36028

97
g-index

120
all docs

120
docs citations

120
times ranked

7169
citing authors

#	ARTICLE	IF	CITATIONS
1	The Original Michaelis Constant: Translation of the 1913 Michaelis-Menten Paper. <i>Biochemistry</i> , 2011, 50, 8264-8269.	2.5	1,008
2	Conformational Coupling in DNA Polymerase Fidelity. <i>Annual Review of Biochemistry</i> , 1993, 62, 685-713.	11.1	552
3	Pre-steady-state kinetic analysis of processive DNA replication including complete characterization of an exonuclease-deficient mutant. <i>Biochemistry</i> , 1991, 30, 511-525.	2.5	527
4	Global Kinetic Explorer: A new computer program for dynamic simulation and fitting of kinetic data. <i>Analytical Biochemistry</i> , 2009, 387, 20-29.	2.4	527
5	Construction and evaluation of the kinetic scheme associated with dihydrofolate reductase from <i>Escherichia coli</i> . <i>Biochemistry</i> , 1987, 26, 4085-4092.	2.5	516
6	An induced-fit kinetic mechanism for DNA replication fidelity: direct measurement by single-turnover kinetics. <i>Biochemistry</i> , 1991, 30, 526-537.	2.5	396
7	Toxicity of Antiviral Nucleoside Analogs and the Human Mitochondrial DNA Polymerase. <i>Journal of Biological Chemistry</i> , 2001, 276, 40847-40857.	3.4	362
8	FitSpace Explorer: An algorithm to evaluate multidimensional parameter space in fitting kinetic data. <i>Analytical Biochemistry</i> , 2009, 387, 30-41.	2.4	307
9	Pathway of processive ATP hydrolysis by kinesin. <i>Nature</i> , 1995, 373, 671-676.	27.8	269
10	A New Paradigm for DNA Polymerase Specificity. <i>Biochemistry</i> , 2006, 45, 9675-9687.	2.5	225
11	Intermediate states of subfragment 1 and actosubfragment 1 ATPase: reevaluation of the mechanism. <i>Biochemistry</i> , 1978, 17, 3432-3442.	2.5	211
12	Kinetic partitioning between the exonuclease and polymerase sites in DNA error correction. <i>Biochemistry</i> , 1991, 30, 538-546.	2.5	209
13	Toxicity of Nucleoside Analogues Used to Treat AIDS and the Selectivity of the Mitochondrial DNA Polymerase. <i>Biochemistry</i> , 2003, 42, 14711-14719.	2.5	198
14	Chapter 23 Fitting Enzyme Kinetic Data with KinTek Global Kinetic Explorer. <i>Methods in Enzymology</i> , 2009, 467, 601-626.	1.0	192
15	1 Transient-State Kinetic Analysis of Enzyme Reaction Pathways. <i>The Enzymes</i> , 1992, , 1-61.	1.7	189
16	[2] Rapid quench kinetic analysis of polymerases, adenosinetriphosphatases, and enzyme intermediates. <i>Methods in Enzymology</i> , 1995, 249, 38-61.	1.0	173
17	Role of Induced Fit in Enzyme Specificity: A Molecular Forward/Reverse Switch. <i>Journal of Biological Chemistry</i> , 2008, 283, 26297-26301.	3.4	170
18	Alternating Site Mechanism of the Kinesin ATPase. <i>Biochemistry</i> , 1998, 37, 792-799.	2.5	163

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19	A tetrahedral intermediate in the EPSP synthase reaction observed by rapid quench kinetics. <i>Biochemistry</i> , 1988, 27, 7395-7406.	2.5	156
20	The kinetic and chemical mechanism of high-fidelity DNA polymerases. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2010, 1804, 1041-1048.	2.3	144
21	DNA Unwinding Is the Primary Determinant of CRISPR-Cas9 Activity. <i>Cell Reports</i> , 2018, 22, 359-371.	6.4	141
22	Pathway of ATP Hydrolysis by Monomeric and Dimeric Kinesin. <i>Biochemistry</i> , 1998, 37, 800-813.	2.5	138
23	Human Mitochondrial DNA Polymerase Holoenzyme: Reconstitution and Characterization. <i>Biochemistry</i> , 2000, 39, 1702-1708.	2.5	132
24	A century of enzyme kinetic analysis, 1913 to 2013. <i>FEBS Letters</i> , 2013, 587, 2753-2766.	2.8	128
25	Kinetic and structural analysis of enzyme intermediates: lessons from EPSP synthase. <i>Chemical Reviews</i> , 1990, 90, 1131-1149.	47.7	126
26	Exonuclease Proofreading by Human Mitochondrial DNA Polymerase. <i>Journal of Biological Chemistry</i> , 2001, 276, 38097-38107.	3.4	125
27	Evaluation of 5-enolpyruvylshikimate-3-phosphate synthase substrate and inhibitor binding by stopped-flow and equilibrium fluorescence measurements. <i>Biochemistry</i> , 1988, 27, 1604-1610.	2.5	123
28	Structural basis for mismatch surveillance by CRISPR-Cas9. <i>Nature</i> , 2022, 603, 343-347.	27.8	116
29	How Conformational Dynamics of DNA Polymerase Select Correct Substrates: Experiments and Simulations. <i>Structure</i> , 2012, 20, 618-627.	3.3	107
30	Fidelity of Nucleotide Incorporation by Human Mitochondrial DNA Polymerase. <i>Journal of Biological Chemistry</i> , 2001, 276, 38090-38096.	3.4	98
31	Effect of RNA Secondary Structure on the Kinetics of DNA Synthesis Catalyzed by HIV-1 Reverse Transcriptase. <i>Biochemistry</i> , 1997, 36, 12459-12467.	2.5	96
32	Remdesivir is a delayed translocation inhibitor of SARS-CoV-2 replication. <i>Molecular Cell</i> , 2021, 81, 1548-1552.e4.	9.7	90
33	Isolation and structural elucidation of the tetrahedral intermediate in the EPSP synthase enzymic pathway. <i>Journal of the American Chemical Society</i> , 1988, 110, 6577-6579.	13.7	87
34	Nucleotide-dependent conformational change governs specificity and analog discrimination by HIV reverse transcriptase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 7734-7739.	7.1	85
35	Expression, Purification, and Initial Kinetic Characterization of the Large Subunit of the Human Mitochondrial DNA Polymerase. <i>Biochemistry</i> , 1998, 37, 6050-6058.	2.5	84
36	Fidelity of the Human Mitochondrial DNA Polymerase. <i>Journal of Biological Chemistry</i> , 2006, 281, 36236-36240.	3.4	82

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37	Single d(GpC)/cis-Diammineplatinum(II) Adduct-Induced Inhibition of DNA Polymerization. <i>Biochemistry</i> , 1999, 38, 715-726.	2.5	77
38	Incorporation and Replication of 8-Oxo-deoxyguanosine by the Human Mitochondrial DNA Polymerase. <i>Journal of Biological Chemistry</i> , 2006, 281, 36241-36248.	3.4	76
39	HIV-1 Reverse Transcriptase Resistance to Nonnucleoside Inhibitors. <i>Biochemistry</i> , 1996, 35, 1054-1063.	2.5	75
40	New standards for collecting and fitting steady state kinetic data. <i>Beilstein Journal of Organic Chemistry</i> , 2019, 15, 16-29.	2.2	73
41	Relationship between Antiviral Activity and Host Toxicity: Comparison of the Incorporation Efficiencies of 2-Deoxy-3-Deoxy-5-Fluoro-3-Thiacytidine-Triphosphate Analogs by Human Immunodeficiency Virus Type 1 Reverse Transcriptase and Human Mitochondrial DNA Polymerase. <i>Antimicrobial Agents and Chemotherapy</i> , 2004, 48, 1300-1306.	3.2	71
42	A sequence-specific threading tetra-intercalator with an extremely slow dissociation rate constant. <i>Nature Chemistry</i> , 2011, 3, 875-881.	13.6	64
43	Selective Inhibition of HIV-1 Reverse Transcriptase by an Antiviral Inhibitor, (R)-9-(2-Phosphonylmethoxypropyl)adenine. <i>Journal of Biological Chemistry</i> , 1998, 273, 27250-27258.	3.4	61
44	Engineered CRISPR/Cas9 enzymes improve discrimination by slowing DNA cleavage to allow release of off-target DNA. <i>Nature Communications</i> , 2020, 11, 3576.	12.8	55
45	Remdesivir Is Effective in Combating COVID-19 because It Is a Better Substrate than ATP for the Viral RNA-Dependent RNA Polymerase. <i>IScience</i> , 2020, 23, 101849.	4.1	51
46	Observation by carbon-13 NMR of the EPSP synthase tetrahedral intermediate bound to the enzyme active site. <i>Biochemistry</i> , 1990, 29, 1460-1465.	2.5	50
47	Assembly, Purification, and Pre-steady-state Kinetic Analysis of Active RNA-dependent RNA Polymerase Elongation Complex. <i>Journal of Biological Chemistry</i> , 2012, 287, 10674-10683.	3.4	49
48	Mutants Affecting Nucleotide Recognition by T7 DNA Polymerase. <i>Biochemistry</i> , 1994, 33, 14908-14917.	2.5	41
49	Importance of Hydrogen Bonding for Efficiency and Specificity of the Human Mitochondrial DNA Polymerase. <i>Journal of Biological Chemistry</i> , 2008, 283, 14402-14410.	3.4	41
50	A novel mechanism of selectivity against AZT by the human mitochondrial DNA polymerase. <i>Nucleic Acids Research</i> , 2007, 35, 6973-6983.	14.5	40
51	Visible Light Mediated Bidirectional Control over Carbonic Anhydrase Activity in Cells and <i>in Vivo</i> Using Azobenzenesulfonamides. <i>Journal of the American Chemical Society</i> , 2020, 142, 14522-14531.	13.7	40
52	NTP-mediated nucleotide excision activity of hepatitis C virus RNA-dependent RNA polymerase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, E348-57.	7.1	38
53	Effect of RNA Secondary Structure on RNA Cleavage Catalyzed by HIV-1 Reverse Transcriptase. <i>Biochemistry</i> , 1997, 36, 12468-12476.	2.5	37
54	RNA Secondary Structure Switching during DNA Synthesis Catalyzed by HIV-1 Reverse Transcriptase. <i>Biochemistry</i> , 1997, 36, 14778-14785.	2.5	36

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55	Role of Induced Fit in Limiting Discrimination against AZT by HIV Reverse Transcriptase. <i>Biochemistry</i> , 2011, 50, 5008-5015.	2.5	36
56	A Single Mutation in Human Mitochondrial DNA Polymerase Pol γ Affects Both Polymerization and Proofreading Activities of Only the Holoenzyme. <i>Journal of Biological Chemistry</i> , 2010, 285, 28105-28116.	3.4	31
57	The human mitochondrial single-stranded DNA-binding protein displays distinct kinetics and thermodynamics of DNA binding and exchange. <i>Journal of Biological Chemistry</i> , 2017, 292, 13068-13084.	3.4	30
58	Structure and mass of mammalian respiratory ciliary outer arm 19S dynein. <i>Cytoskeleton</i> , 1988, 11, 157-166.	4.4	29
59	Alternating Site ATPase Pathway of Rat Conventional Kinesin. <i>Journal of Biological Chemistry</i> , 2005, 280, 37048-37060.	3.4	29
60	Enzyme Selectivity of HIV Reverse Transcriptase: Conformations, Ligands, and Free Energy Partition. <i>Journal of Physical Chemistry B</i> , 2015, 119, 11513-11526.	2.6	28
61	Novel Mechanism of Inhibition of HIV-1 Reverse Transcriptase by a New Non-nucleoside Analog, KM-1. <i>Journal of Biological Chemistry</i> , 2004, 279, 38424-38432.	3.4	22
62	Effect of the Y955C Mutation on Mitochondrial DNA Polymerase Nucleotide Incorporation Efficiency and Fidelity. <i>Biochemistry</i> , 2011, 50, 6376-6386.	2.5	22
63	Rate-limiting Pyrophosphate Release by HIV Reverse Transcriptase Improves Fidelity. <i>Journal of Biological Chemistry</i> , 2016, 291, 26554-26565.	3.4	22
64	Hydrogen/Deuterium Exchange Kinetics Demonstrate Long Range Allosteric Effects of Thumb Site 2 Inhibitors of Hepatitis C Viral RNA-dependent RNA Polymerase. <i>Journal of Biological Chemistry</i> , 2016, 291, 10078-10088.	3.4	22
65	Real-time measurement of pyrophosphate release kinetics. <i>Analytical Biochemistry</i> , 2008, 372, 125-127.	2.4	21
66	HIV-1 Reverse Transcriptase Polymerase and RNase H (Ribonuclease H) Active Sites Work Simultaneously and Independently. <i>Journal of Biological Chemistry</i> , 2016, 291, 26566-26585.	3.4	21
67	Transient state kinetic analysis of the dynein ATPase. <i>Cell Motility</i> , 1982, 2, 101-106.	1.8	19
68	The Catalytic Mechanism of EPSP Synthase Revisited. <i>Biochemistry</i> , 1999, 38, 7372-7379.	2.5	19
69	Reaction of cis-3-Chloroacrylic Acid Dehalogenase with an Allene Substrate, 2,3-Butadienoate: Hydration via an Enamine. <i>Journal of the American Chemical Society</i> , 2012, 134, 293-304.	13.7	19
70	Trimeric microsomal glutathione transferase 2 displays one third of the sites reactivity. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2015, 1854, 1365-1371.	2.3	19
71	The binding of Class II sRNA MgrR to two different sites on matchmaker protein Hfq enables efficient competition for Hfq and annealing to regulated mRNAs. <i>Rna</i> , 2018, 24, 1761-1784.	3.5	19
72	Site-specific labeling of T7 DNA polymerase with a conformationally sensitive fluorophore and its use in detecting single-nucleotide polymorphisms. <i>Analytical Biochemistry</i> , 2009, 384, 136-144.	2.4	17

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73	Base Pair Hydrogen Bonds Are Essential for Proofreading Selectivity by the Human Mitochondrial DNA Polymerase. <i>Journal of Biological Chemistry</i> , 2008, 283, 14411-14416.	3.4	16
74	Stopped-Flow Kinetic Analysis of the Interaction of Cyclo[8]pyrrole with Anions. <i>Journal of the American Chemical Society</i> , 2010, 132, 16617-16622.	13.7	16
75	Binding of the J-Binding Protein to DNA Containing Glucosylated hmU (Base J) or 5-hmC: Evidence for a Rapid Conformational Change upon DNA Binding. <i>Journal of the American Chemical Society</i> , 2012, 134, 13357-13365.	13.7	15
76	Thumb Site 2 Inhibitors of Hepatitis C Viral RNA-dependent RNA Polymerase Allosterically Block the Transition from Initiation to Elongation. <i>Journal of Biological Chemistry</i> , 2016, 291, 10067-10077.	3.4	15
77	Pyrophosphate Release in the Protein HIV Reverse Transcriptase. <i>Journal of Physical Chemistry B</i> , 2017, 121, 9557-9565.	2.6	15
78	Optimized incorporation of an unnatural fluorescent amino acid affords measurement of conformational dynamics governing high-fidelity DNA replication. <i>Journal of Biological Chemistry</i> , 2020, 295, 17265-17280.	3.4	14
79	Conformational dynamics during high-fidelity DNA replication and translocation defined using a DNA polymerase with a fluorescent artificial amino acid. <i>Journal of Biological Chemistry</i> , 2021, 296, 100143.	3.4	14
80	Leveraging intrinsic flexibility to engineer enhanced enzyme catalytic activity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	7.1	14
81	Role of Histidine 932 of the Human Mitochondrial DNA Polymerase in Nucleotide Discrimination and Inherited Disease. <i>Journal of Biological Chemistry</i> , 2010, 285, 34191-34201.	3.4	13
82	Alpers disease mutations in human DNA polymerase gamma cause catalytic defects in mitochondrial DNA replication by distinct mechanisms. <i>Frontiers in Genetics</i> , 2015, 06, 135.	2.3	13
83	A new general method for simultaneous fitting of temperature and concentration dependence of reaction rates yields kinetic and thermodynamic parameters for HIV reverse transcriptase specificity. <i>Journal of Biological Chemistry</i> , 2017, 292, 6695-6702.	3.4	13
84	A Pre-Steady State Kinetic Analysis of the $\hat{I}\pm Y60W$ Mutant of <i>trans</i> -3-Chloroacrylic Acid Dehalogenase: Implications for the Mechanism of the Wild-Type Enzyme. <i>Biochemistry</i> , 2012, 51, 9420-9435.	2.5	12
85	High throughput quantification of short nucleic acid samples by capillary electrophoresis with automated data processing. <i>Analytical Biochemistry</i> , 2021, 629, 114239.	2.4	12
86	Kinetic and thermodynamic analysis defines roles for two metal ions in DNA polymerase specificity and catalysis. <i>Journal of Biological Chemistry</i> , 2021, 296, 100184.	3.4	11
87	Mechanisms of inhibition of viral RNA replication by nucleotide analogs. <i>The Enzymes</i> , 2021, 49, 39-62.	1.7	11
88	Mechanistic studies of a $\hat{\alpha}$ Declick $\hat{\epsilon}$ -reaction. <i>Chemical Science</i> , 2019, 10, 8817-8824.	7.4	10
89	Pre-Steady-State Kinetic Analysis of <i>cis</i> -3-Chloroacrylic Acid Dehalogenase: Analysis and Implications. <i>Biochemistry</i> , 2009, 48, 11737-11744.	2.5	9
90	Role of a GAG Hinge in the Nucleotide-induced Conformational Change Governing Nucleotide Specificity by T7 DNA Polymerase. <i>Journal of Biological Chemistry</i> , 2011, 286, 1312-1322.	3.4	9

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91	pH-Sensitive fluorophores from locked GFP chromophores by a non-alternant analogue of the photochemical meta effect. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 26703-26711.	2.8	9
92	Expression and purification of tag-free SARS-CoV-2 RNA-dependent RNA polymerase in <i>Escherichia coli</i> . <i>STAR Protocols</i> , 2021, 2, 100357.	1.2	9
93	Pyrophosphate release acts as a kinetic checkpoint during high-fidelity DNA replication by the <i>Staphylococcus aureus</i> replicative polymerase PolC. <i>Nucleic Acids Research</i> , 2021, 49, 8324-8338.	14.5	9
94	High-cell density shake-flask expression and rapid purification of the large fragment of <i>Thermus aquaticus</i> DNA polymerase I using a new chemically and temperature inducible expression plasmid in <i>Escherichia coli</i> . <i>Protein Expression and Purification</i> , 2009, 63, 120-127.	1.3	8
95	Resistance to excision determines efficiency of hepatitis C virus RNA-dependent RNA polymerase inhibition by nucleotide analogs. <i>Journal of Biological Chemistry</i> , 2020, 295, 10112-10124.	3.4	8
96	Substrate specificity and proposed structure of the proofreading complex of T7 DNA polymerase. <i>Journal of Biological Chemistry</i> , 2022, 298, 101627.	3.4	8
97	Analysis of single nucleotide incorporation reactions by capillary electrophoresis. <i>Analytical Biochemistry</i> , 2005, 340, 35-40.	2.4	7
98	Exploring the Reaction Mechanism of HIV Reverse Transcriptase with a Nucleotide Substrate. <i>Journal of Physical Chemistry B</i> , 2020, 124, 4270-4283.	2.6	7
99	Kinetic characterization of Cas9 enzymes. <i>Methods in Enzymology</i> , 2019, 616, 289-311.	1.0	6
100	Conformational Dynamics Contribute to Substrate Selectivity and Catalysis in Human Kynureninase. <i>ACS Chemical Biology</i> , 2020, 15, 3159-3166.	3.4	6
101	Rate-limiting pyrophosphate release by hepatitis C virus polymerase NS5B improves fidelity. <i>Journal of Biological Chemistry</i> , 2020, 295, 16436-16444.	3.4	5
102	Conformational dynamics during misincorporation and mismatch extension defined using a DNA polymerase with a fluorescent artificial amino acid. <i>Journal of Biological Chemistry</i> , 2022, 298, 101451.	3.4	5
103	Towards Efficient Reconstitution of the Human Mitochondrial DNA Replication Complex. <i>Biophysical Journal</i> , 2013, 104, 74a.	0.5	3
104	Section Reviews; Anti-infectives: Section Review Anti-infectives: Therapeutic potential of nonnucleoside reverse transcriptase inhibitors in the treatment of HIV infection. <i>Expert Opinion on Investigational Drugs</i> , 1996, 5, 985-1001.	4.1	3
105	Resolution of the uncertainty in the kinetic mechanism for the trans-3-Chloroacrylic acid dehalogenase-catalyzed reaction. <i>Archives of Biochemistry and Biophysics</i> , 2017, 623-624, 9-19.	3.0	2
106	Scanning Transmission Electron Microscopy of Dynein Arms. <i>Annals of the New York Academy of Sciences</i> , 1984, 438, 217-223.	3.8	1
107	Teaching Chemical Kinetics with Dynamic Simulations. <i>Trends in Chemistry</i> , 2019, 1, 278-281.	8.5	0
108	Base Pair Hydrogen Bonding and the Selectivity of a DNA Polymerase. <i>FASEB Journal</i> , 2006, 20, A480.	0.5	0

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109	Kinetics of T7 DNA polymerase conformational changes during nucleotide incorporation. FASEB Journal, 2006, 20, A480.	0.5	0
110	Characterization of a T7 DNA Polymerase Mutant with a Completely Rate-Limiting Conformational Change Step during Nucleotide Incorporation. FASEB Journal, 2007, 21, A657.	0.5	0
111	Catalytic and specificity determinants in cis-3-chloroacrylic acid dehalogenase: pre-steady state kinetic analysis of active site loop mutants. FASEB Journal, 2009, 23, LB222.	0.5	0
112	Transient kinetic analysis of the elongation mode of Dengue Virus RNA polymerase domain. FASEB Journal, 2010, 24, lb75.	0.5	0
113	Assembly and Pre-steady-state Kinetic Analysis of the Hepatitis C Virus RNA Polymerase Elongation Complex. FASEB Journal, 2011, 25, lb68.	0.5	0
114	Kinetic Basis for Improved Specificity of CRISPR/Cas9 High Fidelity Variants. FASEB Journal, 2019, 33, 620.4.	0.5	0