Kenneth A Johnson

List of Publications by Year
in descending order

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	Conformational dynamics during misincorporation andÂmismatch extension defined using a DNA polymerase with a fluorescent artificial amino acid. Journal of Biological Chemistry, 2022, 298, 101451.	3.4	5
2	Substrate specificity and proposed structure of the proofreading complex of T7 DNA polymerase. Journal of Biological Chemistry, 2022, 298, 101627.	3.4	8
3	Structural basis for mismatch surveillance by CRISPRâ€“Cas9. Nature, 2022, 603, 343-347.	27.8	116
4	Leveraging intrinsic flexibility to engineer enhanced enzyme catalytic activity. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	14
5	Kinetic and thermodynamic analysis defines roles for two metal ions in DNA polymerase specificity and catalysis. Journal of Biological Chemistry, 2021, 296, 100184.	3.4	11
6	Conformational dynamics during high-fidelity DNA replication and translocation defined using a DNA polymerase with a fluorescent artificial amino acid. Journal of Biological Chemistry, 2021, 296, 100143.	3.4	14
7	Expression and purification of tag-free SARS-CoV-2 RNA-dependent RNA polymerase in Escherichia coli. STAR Protocols, 2021, 2, 100357.	1.2	9
8	Remdesivir is a delayed translocation inhibitor of SARS-CoV-2 replication. Molecular Cell, 2021, 81, 1548-1552.e4.	9.7	90
9	Pyrophosphate release acts as a kinetic checkpoint during high-fidelity DNA replication by the Staphylococcus aureus replicative polymerase PolC. Nucleic Acids Research, 2021, 49, 8324-8338.	14.5	9
10	High throughput quantification of short nucleic acid samples by capillary electrophoresis with automated data processing. Analytical Biochemistry, 2021, 629, 114239.	2.4	12
11	Mechanisms of inhibition of viral RNA replication by nucleotide analogs. The Enzymes, 2021, 49, 39-62.	1.7	11
12	Optimized incorporation of an unnatural fluorescent amino acid affords measurement of conformational dynamics governing high-fidelity DNA replication. Journal of Biological Chemistry, 2020, 295, 17265-17280.	3.4	14
13	Engineered CRISPR/Cas9 enzymes improve discrimination by slowing DNA cleavage to allow release of off-target DNA. Nature Communications, 2020, 11, 3576.	12.8	55
14	Conformational Dynamics Contribute to Substrate Selectivity and Catalysis in Human Kynureninase. ACS Chemical Biology, 2020, 15, 3159-3166.	3.4	6
15	Remdesivir Is Effective in Combating COVID-19 because It Is a Better Substrate than ATP for the Viral RNA-Dependent RNA Polymerase. IScience, 2020, 23, 101849.	4.1	51
16	Exploring the Reaction Mechanism of HIV Reverse Transcriptase with a Nucleotide Substrate. Journal of Physical Chemistry B, 2020, 124, 4270-4283.	2.6	7
17	Resistance to excision determines efficiency of hepatitis C virus RNA-dependent RNA polymerase inhibition by nucleotide analogs. Journal of Biological Chemistry, 2020, 295, 10112-10124.	3.4	8
18	Visible Light Mediated Bidirectional Control over Carbonic Anhydrase Activity in Cells and in Vivo Using Azobenzenesulfonamides. Journal of the American Chemical Society, 2020, 142, 14522-14531.	13.7	40

#	Article	IF	Citations
19	Rate-limiting pyrophosphate release by hepatitis C virus polymerase NS5B improves fidelity. Journal of Biological Chemistry, 2020, 295, 16436-16444.	3.4	5
20	Mechanistic studies of a â€œDeclickâ€•reaction. Chemical Science, 2019, 10, 8817-8824.	7.4	10
21	Kinetic characterization of Cas9 enzymes. Methods in Enzymology, 2019, 616, 289-311.	1.0	6
22	New standards for collecting and fitting steady state kinetic data. Beilstein Journal of Organic Chemistry, 2019, 15, 16-29.	2.2	73
23	Teaching Chemical Kinetics with Dynamic Simulations. Trends in Chemistry, 2019, 1, 278-281.	8.5	0
24	Kinetic Basis for Improved Specificity of CRISPR/Cas9 High Fidelity Variants. FASEB Journal, 2019, 33, 620.4.	0.5	0
25	DNA Unwinding Is the Primary Determinant of CRISPR-Cas9 Activity. Cell Reports, 2018, 22, 359-371.	6.4	141
26	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. Rna, 2018, 24, 1761-1784.	3.5	19
27	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. Journal of Biological Chemistry, 2017, 292, 6695-6702.	3.4	13
28	The human mitochondrial single-stranded DNA-binding protein displays distinct kinetics and thermodynamics of DNA binding and exchange. Journal of Biological Chemistry, 2017, 292, 13068-13084.	3.4	30
29	Resolution of the uncertainty in the kinetic mechanism for the trans -3-Chloroacrylic acid dehalogenase-catalyzed reaction. Archives of Biochemistry and Biophysics, 2017, 623-624, 9-19.	3.0	2
30	Pyrophosphate Release in the Protein HIV Reverse Transcriptase. Journal of Physical Chemistry B, 2017, 121, 9557-9565.	2.6	15
31	HIV-1 Reverse Transcriptase Polymerase and RNase H (Ribonuclease H) Active Sites Work Simultaneously and Independently. Journal of Biological Chemistry, 2016, 291, 26566-26585.	3.4	21
32	pH-Sensitive fluorophores from locked GFP chromophores by a non-alternant analogue of the photochemical meta effect. Physical Chemistry Chemical Physics, 2016, 18, 26703-26711.	2.8	9
33	Rate-limiting Pyrophosphate Release by HIV Reverse Transcriptase Improves Fidelity. Journal of Biological Chemistry, 2016, 291, 26554-26565.	3.4	22
34	Hydrogen/Deuterium Exchange Kinetics Demonstrate Long Range Allosteric Effects of Thumb Site 2 Inhibitors of Hepatitis C Viral RNA-dependent RNA Polymerase. Journal of Biological Chemistry, 2016, 291, 10078-10088.	3.4	22
35	Thumb Site 2 Inhibitors of Hepatitis C Viral RNA-dependent RNA Polymerase Allosterically Block the Transition from Initiation to Elongation. Journal of Biological Chemistry, 2016, 291, 10067-10077.	3.4	15
36	Alpers disease mutations in human DNA polymerase gamma cause catalytic defects in mitochondrial DNA replication by distinct mechanisms. Frontiers in Genetics, 2015, 06, 135.	2.3	13

#	Article	IF	Citations
37	Trimeric microsomal glutathione transferase 2 displays one third of the sites reactivity. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2015, 1854, 1365-1371.	2.3	19
38	Enzyme Selectivity of HIV Reverse Transcriptase: Conformations, Ligands, and Free Energy Partition. Journal of Physical Chemistry B, 2015, 119, 11513-11526.	2.6	28
39	A century of enzyme kinetic analysis, 1913 to 2013. FEBS Letters, 2013, 587, 2753-2766.	2.8	128
40	Towards Efficient Reconstitution of the Human Mitochondrial DNA Replication Complex. Biophysical Journal, 2013, 104, 74a.	0.5	3
41	NTP-mediated nucleotide excision activity of hepatitis C virus RNA-dependent RNA polymerase. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E348-57.	7.1	38
42	Assembly, Purification, and Pre-steady-state Kinetic Analysis of Active RNA-dependent RNA Polymerase Elongation Complex. Journal of Biological Chemistry, 2012, 287, 10674-10683.	3.4	49
43	A Pre-Steady State Kinetic Analysis of the Î±Y60W Mutant of trans-3-Chloroacrylic Acid Dehalogenase: Implications for the Mechanism of the Wild-Type Enzyme. Biochemistry, 2012, 51, 9420-9435.	2.5	12
44	Reaction ofcis-3-Chloroacrylic Acid Dehalogenase with an Allene Substrate, 2,3-Butadienoate: Hydration via an Enamine. Journal of the American Chemical Society, 2012, 134, 293-304.	13.7	19
45	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. Journal of the American Chemical Society, 2012, 134, 13357-13365.	13.7	15
46	How Conformational Dynamics of DNA Polymerase Select Correct Substrates: Experiments and Simulations. Structure, 2012, 20, 618-627.	3.3	107
47	Role of Induced Fit in Limiting Discrimination against AZT by HIV Reverse Transcriptase. Biochemistry, 2011, 50, 5008-5015.	2.5	36
48	Effect of the Y955C Mutation on Mitochondrial DNA Polymerase Nucleotide Incorporation Efficiency and Fidelity. Biochemistry, 2011, 50, 6376-6386.	2.5	22
49	The Original Michaelis Constant: Translation of the 1913 Michaelisâ€“Menten Paper. Biochemistry, 2011, 50, 8264-8269.	2.5	1,008
50	A sequence-specific threading tetra-intercalator with an extremely slow dissociation rate constant. Nature Chemistry, 2011, 3, 875-881.	13.6	64
51	Role of a GAG Hinge in the Nucleotide-induced Conformational Change Governing Nucleotide Specificity by T7 DNA Polymerase. Journal of Biological Chemistry, 2011, 286, 1312-1322.	3.4	9
52	Assembly and Preâ€steadyâ€state Kinetic Analysis of the Hepatitis C Virus RNA Polymerase Elongation Complex. FASEB Journal, 2011, 25, lb68.	0.5	0
53	The kinetic and chemical mechanism of high-fidelity DNA polymerases. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2010, 1804, 1041-1048.	2.3	144
54	Nucleotide-dependent conformational change governs specificity and analog discrimination by HIV reverse transcriptase. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 7734-7739.	7.1	85

#	Article	IF	Citations
55	Role of Histidine 932 of the Human Mitochondrial DNA Polymerase in Nucleotide Discrimination and Inherited Disease. Journal of Biological Chemistry, 2010, 285, 34191-34201.	3.4	13
56	A Single Mutation in Human Mitochondrial DNA Polymerase Pol Î³A Affects Both Polymerization and Proofreading Activities of Only the Holoenzyme. Journal of Biological Chemistry, 2010, 285, 28105-28116.	3.4	31
57	Stopped-Flow Kinetic Analysis of the Interaction of Cyclo[8]pyrrole with Anions. Journal of the American Chemical Society, 2010, 132, 16617-16622.	13.7	16
58	Transient kinetic analysis of the elongation mode of Dengue Virus RNA polymerase domain. FASEB Journal, 2010, 24, lb75.	0.5	0
59	Site-specific labeling of T7 DNA polymerase with a conformationally sensitive fluorophore and its use in detecting single-nucleotide polymorphisms. Analytical Biochemistry, 2009, 384, 136-144.	2.4	17
60	Global Kinetic Explorer: A new computer program for dynamic simulation and fitting of kinetic data. Analytical Biochemistry, 2009, 387, 20-29.	2.4	527
61	FitSpace Explorer: An algorithm to evaluate multidimensional parameter space in fitting kinetic data. Analytical Biochemistry, 2009, 387, 30-41.	2.4	307
62	Pre-Steady-State Kinetic Analysis of cis-3-Chloroacrylic Acid Dehalogenase: Analysis and Implications. Biochemistry, 2009, 48, 11737-11744.	2.5	9
63	High-cell density shake-flask expression and rapid purification of the large fragment of Thermus aquaticus DNA polymerase I using a new chemically and temperature inducible expression plasmid in Escherichia coli. Protein Expression and Purification, 2009, 63, 120-127.	1.3	8
64	Chapter 23 Fitting Enzyme Kinetic Data with KinTek Global Kinetic Explorer. Methods in Enzymology, 2009, 467, 601-626.	1.0	192
65	Catalytic and specificity determinants in cis â€3â€chloroacrylic acid dehalogenase: preâ€steady state kinetic analysis of active site loop mutants. FASEB Journal, 2009, 23, LB222.	0.5	0
66	Real-time measurement of pyrophosphate release kinetics. Analytical Biochemistry, 2008, 372, 125-127.	2.4	21
67	Importance of Hydrogen Bonding for Efficiency and Specificity of the Human Mitochondrial DNA Polymerase. Journal of Biological Chemistry, 2008, 283, 14402-14410.	3.4	41
68	Base Pair Hydrogen Bonds Are Essential for Proofreading Selectivity by the Human Mitochondrial DNA Polymerase. Journal of Biological Chemistry, 2008, 283, 14411-14416.	3.4	16
69	Role of Induced Fit in Enzyme Specificity: A Molecular Forward/Reverse Switch. Journal of Biological Chemistry, 2008, 283, 26297-26301.	3.4	170
70	A novel mechanism of selectivity against AZT by the human mitochondrial DNA polymerase. Nucleic Acids Research, 2007, 35, 6973-6983.	14.5	40
71	Characterization of a T7 DNA Polymerase Mutant with a Completely Rateâ€limiting Conformational Change Step during Nucleotide Incorporation. FASEB Journal, 2007, 21, A657.	0.5	0
72	A New Paradigm for DNA Polymerase Specificityâ€. Biochemistry, 2006, 45, 9675-9687.	2.5	225

#	Article	IF	Citations
73	Fidelity of the Human Mitochondrial DNA Polymerase. Journal of Biological Chemistry, 2006, 281, 36236-36240.	3.4	82
74	Incorporation and Replication of 8-Oxo-deoxyguanosine by the Human Mitochondrial DNA Polymerase. Journal of Biological Chemistry, 2006, 281, 36241-36248.	3.4	76
75	Base Pair Hydrogen Bonding and the Selectivity of a DNA Polymerase. FASEB Journal, 2006, 20, A480.	0.5	0
76	Kinetics of T7 DNA polymerase conformational changes during nucleotide incorporation. FASEB Journal, 2006, 20, A480.	0.5	0
77	Analysis of single nucleotide incorporation reactions by capillary electrophoresis. Analytical Biochemistry, 2005, 340, 35-40.	2.4	7
78	Alternating Site ATPase Pathway of Rat Conventional Kinesin. Journal of Biological Chemistry, 2005, 280, 37048-37060.	3.4	29
79	Relationship between Antiviral Activity and Host Toxicity: Comparison of the Incorporation Efficiencies of 2â€²,3â€²-Dideoxy-5-Fluoro-3â€²-Thiacytidine-Triphosphate Analogs by Human Immunodeficiency Virus Type 1 Reverse Transcriptase and Human Mitochondrial DNA Polymerase. Antimicrobial Agents and Chemotherapy, 2004, 48, 1300-1306.	3.2	71
80	Novel Mechanism of Inhibition of HIV-1 Reverse Transcriptase by a New Non-nucleoside Analog, KM-1. Journal of Biological Chemistry, 2004, 279, 38424-38432.	3.4	22
81	Toxicity of Nucleoside Analogues Used to Treat AIDS and the Selectivity of the Mitochondrial DNA Polymerase. Biochemistry, 2003, 42, 14711-14719.	2.5	198
82	Fidelity of Nucleotide Incorporation by Human Mitochondrial DNA Polymerase. Journal of Biological Chemistry, 2001, 276, 38090-38096.	3.4	98
83	Exonuclease Proofreading by Human Mitochondrial DNA Polymerase. Journal of Biological Chemistry, 2001, 276, 38097-38107.	3.4	125
84	Toxicity of Antiviral Nucleoside Analogs and the Human Mitochondrial DNA Polymerase. Journal of Biological Chemistry, 2001, 276, 40847-40857.	3.4	362
85	Human Mitochondrial DNA Polymerase Holoenzyme: Reconstitution and Characterizationâ€. Biochemistry, 2000, 39, 1702-1708.	2.5	132
86	The Catalytic Mechanism of EPSP Synthase Revisited. Biochemistry, 1999, 38, 7372-7379.	2.5	19
87	Single d(GpG)/cis-Diammineplatinum(II) Adduct-Induced Inhibition of DNA Polymerization. Biochemistry, 1999, 38, 715-726.	2.5	77
88	Expression, Purification, and Initial Kinetic Characterization of the Large Subunit of the Human Mitochondrial DNA Polymeraseâ€. Biochemistry, 1998, 37, 6050-6058.	2.5	84
89	Alternating Site Mechanism of the Kinesin ATPaseâ€. Biochemistry, 1998, 37, 792-799.	2.5	163
90	Pathway of ATP Hydrolysis by Monomeric and Dimeric Kinesinâ€. Biochemistry, 1998, 37, 800-813.	2.5	138

#	Article	IF	Citations
91	Selective Inhibition of HIV-1 Reverse Transcriptase by an Antiviral Inhibitor, (R)-9-(2-Phosphonylmethoxypropyl)adenine. Journal of Biological Chemistry, 1998, 273, 27250-27258.	3.4	61
92	RNA Secondary Structure Switching during DNA Synthesis Catalyzed by HIV-1 Reverse Transcriptaseâ€. Biochemistry, 1997, 36, 14778-14785.	2.5	36
93	Effect of RNA Secondary Structure on the Kinetics of DNA Synthesis Catalyzed by HIV-1 Reverse Transcriptaseâ€. Biochemistry, 1997, 36, 12459-12467.	2.5	96
94	Effect of RNA Secondary Structure on RNA Cleavage Catalyzed by HIV-1 Reverse Transcriptaseâ€. Biochemistry, 1997, 36, 12468-12476.	2.5	37
95	HIV-1 Reverse Transcriptase Resistance to Nonnucleoside Inhibitorsâ€. Biochemistry, 1996, 35, 1054-1063.	2.5	75
96	Section Reviews; Anti-infectives: Section Review Anti-infectives: Therapeutic potential of nonnucleoside reverse transcriptase inhibitors in the treatment of HIV infection. Expert Opinion on Investigational Drugs, 1996, 5, 985-1001.	4.1	3
97	[2] Rapid quench kinetic analysis of polymerases, adenosinetriphosphatases, and enzyme intermediates. Methods in Enzymology, 1995, 249, 38-61.	1.0	173
98	Pathway of processive ATP hydrolysis by kinesin. Nature, 1995, 373, 671-676.	27.8	269
99	Mutants Affecting Nucleotide Recognition by T7 DNA Polymerase. Biochemistry, 1994, 33, 14908-14917.	2.5	41
100	Conformational Coupling in DNA Polymerase Fidelity. Annual Review of Biochemistry, 1993, 62, 685-713.	11.1	552
101	1 Transient-State Kinetic Analysis of Enzyme Reaction Pathways. The Enzymes, 1992, , 1-61.	1.7	189
102	Pre-steady-state kinetic analysis of processive DNA replication including complete characterization of an exonuclease-deficient mutant. Biochemistry, 1991, 30, 511-525.	2.5	527
103	Kinetic partitioning between the exonuclease and polymerase sites in DNA error correction. Biochemistry, 1991, 30, 538-546.	2.5	209
104	An induced-fit kinetic mechanism for DNA replication fidelity: direct measurement by single-turnover kinetics. Biochemistry, 1991, 30, 526-537.	2.5	396
105	Observation by carbon-13 NMR of the EPSP synthase tetrahedral intermediate bound to the enzyme active site. Biochemistry, 1990, 29, 1460-1465.	2.5	50
106	Kinetic and structural analysis of enzyme intermediates: lessons from EPSP synthase. Chemical Reviews, 1990, 90, 1131-1149.	47.7	126
107	Structure and mass of mammalian respiratory ciliary outer arm 19S dynein. Cytoskeleton, 1988, 11, 157-166.	4.4	29
108	Isolation and structural elucidation of the tetrahedral intermediate in the EPSP synthase enzymic pathway. Journal of the American Chemical Society, 1988, 110, 6577-6579.	13.7	87

#	Article	IF	Citations
109	A tetrahedral intermediate in the EPSP synthase reaction observed by rapid quench kinetics. Biochemistry, 1988, 27, 7395-7406.	2.5	156
110	Evaluation of 5-enolpyruvoylshikimate-3-phosphate synthase substrate and inhibitor binding by stopped-flow and equilibrium fluorescence measurements. Biochemistry, 1988, 27, 1604-1610.	2.5	123
111	Construction and evaluation of the kinetic scheme associated with dihydrofolate reductase from Escherichia coli. Biochemistry, 1987, 26, 4085-4092.	2.5	516
112	Scanning Transmission Electron Microscopy of Dynein Arms. Annals of the New York Academy of Sciences, 1984, 438, 217-223.	3.8	1
113	Transient state kinetic analysis of the dynein ATPase. Cell Motility, 1982, 2, 101-106.	1.8	19
114	Intermediate states of subfragment 1 and actosubfragment 1 ATPase: reevaluation of the mechanism. Biochemistry, 1978, 17, 3432-3442.	2.5	211