Anatoly B Kolomeisky

List of Publications by Year
in descending order

241	8,188	50276	62596
papers	citations	46 h-index	80 g-index

263	263	263	5553
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Molecular Motors: A Theorist's Perspective. Annual Review of Physical Chemistry, 2007, 58, 675-695.	10.8	503
2	Phase diagram of one-dimensional driven lattice gases with open boundaries. Journal of Physics A, 1998, 31, 6911-6919.	1.6	322
3	Single-molecule analysis of DNA-protein complexes using nanopores. Nature Methods, 2007, 4, 315-317.	19.0	287
4	Molecular machines open cell membranes. Nature, 2017, 548, 567-572.	27.8	257
5	The force exerted by a molecular motor. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 6597-6602.	7.1	255
6	Simple mechanochemistry describes the dynamics of kinesin molecules. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 7748-7753.	7.1	250
7	Polymer translocation through a long nanopore. Journal of Chemical Physics, 2003, 118, 7112-7118.	3.0	182
8	Physics of proteinâ€“DNA interactions: mechanisms of facilitated target search. Physical Chemistry Chemical Physics, 2011, 13, 2088-2095.	2.8	178
9	Asymmetric simple exclusion model with local inhomogeneity. Journal of Physics A, 1998, 31, 1153-1164.	1.6	141
10	Localization of shocks in driven diffusive systems without particle number conservation. Physical Review E, 2003, 67, 066117.	2.1	134
11	Motor Proteins and Molecular Motors. , 0, , .		124
12	Dynamics of Polymer Translocation through Nanopores: Theory Meets Experiment. Physical Review Letters, 2006, 96, 118103.	7.8	119
13	Kinetics of two-step nucleation of crystals. Journal of Chemical Physics, 2005, 122, 244706.	3.0	118
14	Nucleation of ordered solid phases of proteins via a disordered high-density state: Phenomenological approach. Journal of Chemical Physics, 2005, 122, 174905.	3.0	118
15	A Simple Kinetic Model for Singlet Fission: A Role of Electronic and Entropic Contributions to Macroscopic Rates. Journal of Physical Chemistry C, 2014, 118, 5188-5195.	3.1	116
16	Two-channel totally asymmetric simple exclusion processes. Journal of Physics A, 2004, 37, 9907-9918.	1.6	111
17	Local inhomogeneity in asymmetric simple exclusion processes with extended objects. Journal of Physics A, 2004, 37, 2105-2113.	1.6	109
18	A Simple Kinetic Model Describes the Processivity of Myosin-V. Biophysical Journal, 2003, 84, 1642-1650.	0.5	106

#	Article	IF	Citations
19	Molecular motors and the forces they exert. Physica A: Statistical Mechanics and Its Applications, 1999, 274, 241-266.	2.6	91
20	Channel-Facilitated Molecular Transport across Membranes: Attraction, Repulsion, and Asymmetry. Physical Review Letters, 2007, 98, 048105.	7.8	88
21	Proteinâ^'DNA Interactions:â€‰ Reaching and Recognizing the Targets. Journal of Physical Chemistry B, 2008, 112, 4741-4750.	2.6	88
22	Spontaneous symmetry breaking in two-channel asymmetric exclusion processes with narrow entrances. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 2275-2286.	2.1	85
23	Motor proteins and molecular motors: how to operate machines at the nanoscale. Journal of Physics Condensed Matter, 2013, 25, 463101.	1.8	85
24	Speed-Selectivity Paradox in the Protein Search for Targets on DNA: Is It Real or Not?. Journal of Physical Chemistry B, 2013, 117, 12695-12701.	2.6	85
25	Asymmetric coupling in two-channel simple exclusion processes. Physica A: Statistical Mechanics and Its Applications, 2006, 372, 12-21.	2.6	82
26	Molecular Dynamics of Surface-Moving Thermally Driven Nanocars. Journal of Chemical Theory and Computation, 2008, 4, 652-656.	5.3	81
27	Dissecting the Effect of Morphology on the Rates of Singlet Fission: Insights from Theory. Journal of Physical Chemistry C, 2014, 118, 19608-19617.	3.1	80
28	Synthesis and Single-Molecule Imaging of Highly Mobile Adamantane-Wheeled Nanocars. ACS Nano, 2013, 7, 35-41.	14.6	79
29	Periodic sequential kinetic models with jumping, branching and deaths. Physica A: Statistical Mechanics and Its Applications, 2000, 279, 1-20.	2.6	75
30	Elucidating interplay of speed and accuracy in biological error correction. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5183-5188.	7.1	75
31	Productive Cooperation among Processive Motors Depends Inversely on Their Mechanochemical Efficiency. Biophysical Journal, 2011, 101, 386-395.	0.5	74
32	Understanding mechanochemical coupling in kinesins using first-passage-time processes. Physical Review E, 2005, 71, 031902.	2.1	71
33	ATP Hydrolysis Stimulates Large Length Fluctuations in Single Actin Filaments. Biophysical Journal, 2006, 90, 2673-2685.	0.5	70
34	Micrometer-Scale Translation and Monitoring of Individual Nanocars on Glass. ACS Nano, 2009, 3, 351-356.	14.6	69
35	Positive and negative impacts of nonspecific sites during target location by a sequence-specific DNA-binding protein: origin of the optimal search at physiological ionic strength. Nucleic Acids Research, 2014, 42, 7039-7046.	14.5	65
36	Extended kinetic models with waiting-time distributions: Exact results. Journal of Chemical Physics, 2000, 113, 10867-10877.	3.0	61

#	Article	IF	Citations
37	Coupling between motor proteins determines dynamic behaviors of motor protein assemblies. Physical Chemistry Chemical Physics, 2010, 12, 10398.	2.8	60
38	Theoretical analysis of dynamic processes for interacting molecular motors. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 065001.	2.1	59
39	Translational and Rotational Dynamics of Individual Single-Walled Carbon Nanotubes in Aqueous Suspension. ACS Nano, 2008, 2, 1770-1776.	14.6	58
40	Random Hydrolysis Controls the Dynamic Instability of Microtubules. Biophysical Journal, 2012, 102, 1274-1283.	0.5	58
41	A Simplified â€œRatchetâ€•Model of Molecular Motors. Journal of Statistical Physics, 1998, 93, 633-645.	1.2	57
42	Theoretical investigation of totally asymmetric exclusion processes on lattices with junctions. Journal of Statistical Mechanics: Theory and Experiment, 2005, 2005, P07010-P07010.	2.3	55
43	Collective dynamics of processive cytoskeletal motors. Soft Matter, 2016, 12, 14-21.	2.7	55
44	Single C-to-T substitution using engineered APOBEC3G-nCas9 base editors with minimum genome- and transcriptome-wide off-target effects. Science Advances, 2020, 6, eaba1773.	10.3	55
45	Lattice models of ionic systems. Journal of Chemical Physics, 2002, 116, 7589-7598.	3.0	53
46	Isonitriles as Stereoelectronic Chameleons: The Donorâ€“Acceptor Dichotomy in Radical Additions. Journal of the American Chemical Society, 2018, 140, 14272-14288.	13.7	53
47	Turning On and Off Photoinduced Electron Transfer in Fluorescent Proteins by Ï€-Stacking, Halide Binding, and Tyr145 Mutations. Journal of the American Chemical Society, 2016, 138, 4807-4817.	13.7	52
48	Through the eye of the needle: recent advances in understanding biopolymer translocation. Journal of Physics Condensed Matter, 2013, 25, 413101.	1.8	50
49	Hydrolysis of Guanosine Triphosphate (GTP) by the RasÂ·GAP Protein Complex: Reaction Mechanism and Kinetic Scheme. Journal of Physical Chemistry B, 2015, 119, 12838-12845.	2.6	50
50	Force-Velocity Relation for Growing Microtubules. Biophysical Journal, 2001, 80, 149-154.	0.5	47
51	Unimolecular Submersible Nanomachines. Synthesis, Actuation, and Monitoring. Nano Letters, 2015, 15, 8229-8239.	9.1	47
52	Anomalous Dense Liquid Condensates Host the Nucleation of Tumor Suppressor p53 Fibrils. IScience, 2019, 12, 342-355.	4.1	46
53	Unidirectional Rolling Motion of Nanocars Induced by Electric Field. Journal of Physical Chemistry C, 2012, 116, 22595-22601.	3.1	44
54	Model of the hydrophobic interaction. Faraday Discussions, 1999, 112, 81-89.	3.2	42

#	Article	IF	Citations
55	Coupling of Two Motor Proteins: A New Motor Can Move Faster. Physical Review Letters, 2005, 94, 238101.	7.8	42
56	Bulk induced phase transition in driven diffusive systems. Scientific Reports, 2014, 4, 5459.	3.3	41
57	Correlations and symmetry of interactions influence collective dynamics of molecular motors. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P04013.	2.3	41
58	DNA sequencing by nanopores: advances and challenges. Journal Physics D: Applied Physics, 2016, 49, 413001.	2.8	40
59	Phase diagram structures in a periodic one-dimensional exclusion process. Physical Review E, 2013, 87, 012107.	2.1	39
60	Simple growth models of rigid multifilament biopolymers. Journal of Chemical Physics, 2004, 121, 1097-1104.	3.0	38
61	Rigid-Body Molecular Dynamics of Fullerene-Based Nanocars on Metallic Surfaces. Journal of Chemical Theory and Computation, 2010, 6, 2581-2590.	5.3	38
62	Exact results for parallel-chain kinetic models of biological transport. Journal of Chemical Physics, 2001, 115, 7253-7259.	3.0	37
63	Charge Transfer and Chemisorption of Fullerene Molecules on Metal Surfaces: Application to Dynamics of Nanocars. Journal of Physical Chemistry C, 2012, 116, 13816-13826.	3.1	37
64	Dynamic Force Spectroscopy of Glycoprotein Ib-IX and von Willebrand Factor. Biophysical Journal, 2005, 88, 4391-4401.	0.5	36
65	Entropy production in mesoscopic stochastic thermodynamics: nonequilibrium kinetic cycles driven by chemical potentials, temperatures, and mechanical forces. Journal of Physics Condensed Matter, 2016, 28, 153004.	1.8	36
66	Crowding on DNA in Protein Search for Targets. Journal of Physical Chemistry Letters, 2016, 7, 2502-2506.	4.6	35
67	Effect of Detachments in Asymmetric Simple Exclusion Processes. Journal of Statistical Physics, 2003, 110, 811-823.	1.2	34
68	Mechanisms of Protein Search for Targets on DNA: Theoretical Insights. Molecules, 2018, 23, 2106.	3.8	34
69	Dynamics of Thioether Molecular Rotors: Effects of Surface Interactions and Chain Flexibility. Journal of Physical Chemistry C, 2009, 113, 10913-10920.	3.1	33
70	Trade-Offs between Error, Speed, Noise, and Energy Dissipation in Biological Processes with Proofreading. Journal of Physical Chemistry B, 2019, 123, 4718-4725.	2.6	33
71	Steady-state properties of a totally asymmetric exclusion process with periodic structure. Physical Review E, 2005, 71, 011103.	2.1	32
72	Molecular origin of the weak susceptibility of kinesin velocity to loads and its relation to the collective behavior of kinesins. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E8611-E8617.	7.1	32

#	Article	IF	Citations
73	Asymmetric exclusion processes with disorder: Effect of correlations. Physical Review E, 2008, 78, 061116.	2.1	31
74	Formation of a Morphogen Gradient: Acceleration by Degradation. Journal of Physical Chemistry Letters, 2011, 2, 1502-1505.	4.6	30
75	Mechanisms and topology determination of complex chemical and biological network systems from first-passage theoretical approach. Journal of Chemical Physics, 2013, 139, 144106.	3.0	30
76	Sequence heterogeneity accelerates protein search for targets on DNA. Journal of Chemical Physics, 2015, 143, 245101.	3.0	29
77	Facilitated search of proteins on DNA: correlations are important. Physical Chemistry Chemical Physics, 2010, 12, 2999.	2.8	28
78	How to accelerate protein search on DNA: Location and dissociation. Journal of Chemical Physics, 2012, 136, 125101.	3.0	28
79	Mesoscopic protein-rich clusters host the nucleation of mutant p53 amyloid fibrils. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	28
80	Light-activated molecular machines are fast-acting broad-spectrum antibacterials that target the membrane. Science Advances, 2022, 8, .	10.3	28
81	Parallel coupling of symmetric and asymmetric exclusion processes. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 465001.	2.1	27
82	Direct detection of molecular intermediates from first-passage times. Science Advances, 2020, 6, eaaz4642.	10.3	26
83	Non-equilibrium dynamics of single polymer adsorption to solid surfaces. Journal of Physics Condensed Matter, 2009, 21, 242101.	1.8	24
84	Dynamics of the Protein Search for Targets on DNA in the Presence of Traps. Journal of Physical Chemistry B, 2015, 119, 12410-12416.	2.6	24
85	Role of Static and Dynamic Obstacles in the Protein Search for Targets on DNA. Journal of Physical Chemistry B, 2016, 120, 5802-5809.	2.6	24
86	<scp>DLPacker</scp>: Deep learning for prediction of amino acid side chain conformations in proteins. Proteins: Structure, Function and Bioinformatics, 2022, 90, 1278-1290.	2.6	24
87	Effect of orientation in translocation of polymers through nanopores. Journal of Chemical Physics, 2006, 125, 084906.	3.0	23
88	Helix-Coil Kinetics of Individual Polyadenylic Acid Molecules in a Protein Channel. Physical Review Letters, 2010, 104, 158101.	7.8	23
89	Molecular Dynamics Study of Crystalline Molecular Gyroscopes. Journal of Physical Chemistry C, 2011, 115, 13584-13591.	3.1	23
90	Michaelisâ€“Menten relations for complex enzymatic networks. Journal of Chemical Physics, 2011, 134, 155101.	3.0	23

#	Article	IF	Citations
91	How the Interplay between Mechanical and Nonmechanical Interactions Affects Multiple Kinesin Dynamics. Journal of Physical Chemistry B, 2012, 116, 8846-8855.	2.6	23
92	Effect of interactions for one-dimensional asymmetric exclusion processes under periodic and bath-adapted coupling environment. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 043205.	2.3	23
93	Protein search for multiple targets on DNA. Journal of Chemical Physics, 2015, 143, 105102.	3.0	22
94	Solutions of burnt-bridge models for molecular motor transport. Physical Review E, 2007, 75, 031910.	2.1	20
95	New Model for Understanding Mechanisms of Biological Signaling: Direct Transport via Cytonemes. Journal of Physical Chemistry Letters, 2016, 7, 180-185.	4.6	19
96	Transport of single molecules along the periodic parallel lattices with coupling. Journal of Chemical Physics, 2006, 124, 204901.	3.0	18
97	How Interactions Control Molecular Transport inÂChannels. Journal of Statistical Physics, 2011, 142, 1268-1276.	1.2	18
98	Measuring forces at the leading edge: a force assay for cell motility. Integrative Biology (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 46	1.3	18
99	Single-Molecule FRET Studies of HIV TARâ€“DNA Hairpin Unfolding Dynamics. Journal of Physical Chemistry B, 2014, 118, 12130-12139.	2.6	18
100	How conformational dynamics influences the protein search for targets on DNA. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 444004.	2.1	18
101	Dependence of the Enzymatic Velocity on the Substrate Dissociation Rate. Journal of Physical Chemistry B, 2017, 121, 3437-3442.	2.6	18
102	Effect of charge distribution on the translocation of an inhomogeneously charged polymer through a nanopore. Journal of Chemical Physics, 2008, 128, 125104.	3.0	17
103	Polymer translocation through pores with complex geometries. Journal of Chemical Physics, 2010, 133, 024902.	3.0	17
104	Anisotropic lattice models of electrolytes. Journal of Chemical Physics, 2002, 117, 8879-8885.	3.0	16
105	Lattice models of ionic systems with charge asymmetry. Journal of Chemical Physics, 2003, 118, 6394-6402.	3.0	16
106	Polymerization dynamics of double-stranded biopolymers: Chemical kinetic approach. Journal of Chemical Physics, 2005, 122, 104903.	3.0	16
107	Effect of interactions on molecular fluxes and fluctuations in the transport across membrane channels. Journal of Chemical Physics, 2008, 128, 085101.	3.0	16
108	Dynamics of Single-Molecule Rotations on Surfaces that Depend on Symmetry, Interactions, and Molecular Sizes. Journal of Physical Chemistry C, 2011, 115, 125-131.	3.1	16

#	Article	IF	Citations
109	A Two-Step Method for smFRET Data Analysis. Journal of Physical Chemistry B, 2016, 120, 7128-7132.	2.6	16
110	Accuracy of Substrate Selection by Enzymes Is Controlled by Kinetic Discrimination. Journal of Physical Chemistry Letters, 2017, 8, 1552-1556.	4.6	16
111	Charge-Free, Stabilizing Amideâ^'Ï€ Interactions Can Be Used to Control Collagen Triple-Helix Self-Assembly. Biomacromolecules, 2021, 22, 2137-2147.	5.4	16
112	Formation of cellular close-ended tunneling nanotubes through mechanical deformation. Science Advances, 2022, 8, eabj3995.	10.3	16
113	Theoretical analysis of selectivity mechanisms in molecular transport through channels and nanopores. Journal of Chemical Physics, 2015, 142, 044705.	3.0	15
114	The Role of DNA Looping in the Search for Specific Targets on DNA by Multisite Proteins. Journal of Physical Chemistry Letters, 2016, 7, 5022-5027.	4.6	15
115	Mechanisms of the formation of biological signaling profiles. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 483001.	2.1	15
116	Molecular search with conformational change: One-dimensional discrete-state stochastic model. Journal of Chemical Physics, 2018, 149, 174104.	3.0	15
117	Theoretical Investigation of Transcriptional Bursting: A Multistate Approach. Journal of Physical Chemistry B, 2018, 122, 11969-11977.	2.6	15
118	Theoretical investigation of stochastic clearance of bacteria: first-passage analysis. Journal of the Royal Society Interface, 2019, 16, 20180765.	3.4	15
119	Dye Quenching of Carbon Nanotube Fluorescence Reveals Structure-Selective Coating Coverage. ACS Nano, 2020, 14, 12148-12158.	14.6	15
120	Fluctuations in the structure of interfaces. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1997, 128, 119-128.	4.7	14
121	Translocation of polymers with folded configurations across nanopores. Journal of Chemical Physics, 2007, 127, 185103.	3.0	14
122	First-passage processes on a filamentous track in a dense traffic: optimizing diffusive search for a target in crowding conditions. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 123209.	2.3	14
123	Discrete-state stochastic kinetic models for target DNA search by proteins: Theory and experimental applications. Biophysical Chemistry, 2021, 269, 106521.	2.8	14
124	Dynamic properties of motor proteins with two subunits. Journal of Physics Condensed Matter, 2005, 17, S3887-S3899.	1.8	13
125	On the Mechanism of Carborane Diffusion on a Hydrated Silica Surface. Journal of Physical Chemistry C, 2011, 115, 108-111.	3.1	13
126	Development of morphogen gradient: The role of dimension and discreteness. Journal of Chemical Physics, 2014, 140, 085102.	3.0	13

#	Article	IF	Citations
127	Unveiling the hidden structure of complex stochastic biochemical networks. Journal of Chemical Physics, 2014, 140, 064101.	3.0	13
128	Current-Generating Double-Layer Shoe with a Porous Sole: Ion Transport Matters. Journal of Physical Chemistry C, 2017, 121, 7584-7595.	3.1	13
129	The effect of side motion in the dynamics of interacting molecular motors. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 073202.	2.3	13
130	Molecular mechanisms of the interhead coordination by interhead tension in cytoplasmic dyneins. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 10052-10057.	7.1	13
131	Molecular Model for the Surface-Catalyzed Protein Self-Assembly. Journal of Physical Chemistry B, 2020, 124, 366-372.	2.6	13
132	Analysis of Cooperative Behavior in Multiple Kinesins Motor Protein Transport by Varying Structural and Chemical Properties. Cellular and Molecular Bioengineering, 2013, 6, 38-47.	2.1	12
133	The Role of Multifilament Structures and Lateral Interactions in Dynamics of Cytoskeleton Proteins and Assemblies. Journal of Physical Chemistry B, 2015, 119, 4653-4661.	2.6	12
134	Interactions in nonconserving driven diffusive systems. Physical Review E, 2018, 98, .	2.1	12
135	Exact solutions for a partially asymmetric exclusion model with two species. Physica A: Statistical Mechanics and Its Applications, 1997, 245, 523-533.	2.6	11
136	Monte Carlo simulations of rigid biopolymer growth processes. Journal of Chemical Physics, 2005, 123, 124902.	3.0	11
137	How Polymers Translocate Through Pores: Memory is Important. Biophysical Journal, 2008, 94, 1547-1548.	0.5	11
138	Spontaneous symmetry breaking on a mutiple-channel hollow cylinder. Physics Letters, Section A: General, Atomic and Solid State Physics, 2011, 375, 318-323.	2.1	11
139	Theoretical Analysis of Microtubules Dynamics Using a Physicalâ€“Chemical Description of Hydrolysis. Journal of Physical Chemistry B, 2013, 117, 9217-9223.	2.6	11
140	On the Mechanism of Homology Search by RecA Protein Filaments. Biophysical Journal, 2017, 112, 859-867.	0.5	11
141	Optimal Length of Conformational Transition Region in Protein Search for Targets on DNA. Journal of Physical Chemistry Letters, 2017, 8, 4049-4054.	4.6	11
142	Theoretical investigations of asymmetric simple exclusion processes for interacting oligomers. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 053209.	2.3	11
143	Elucidating the correlations between cancer initiation times and lifetime cancer risks. Scientific Reports, 2019, 9, 18940.	3.3	11
144	Dynamic transitions in coupled motor proteins. Physical Review E, 2006, 73, 031922.	2.1	10

#	Article	IF	Citations
145	Inhomogeneous coupling in two-channel asymmetric simple exclusion processes. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 095002.	2.1	10
146	Recursive Taylor Series Expansion Method for Rigid-Body Molecular Dynamics. Journal of Chemical Theory and Computation, 2011, 7, 3062-3071.	5.3	10
147	Theoretical Analysis of Microtubule Dynamics at All Times. Journal of Physical Chemistry B, 2014, 118, 13777-13784.	2.6	10
148	Target search on DNA by interacting molecules: First-passage approach. Journal of Chemical Physics, 2019, 151, 125101.	3.0	10
149	Long-Range Supercoiling-Mediated RNA Polymerase Cooperation in Transcription. Journal of Physical Chemistry B, 2021, 125, 4692-4700.	2.6	10
150	Temporal order of mutations influences cancer initiation dynamics. Physical Biology, 2021, 18, 056002.	1.8	10
151	A general theoretical framework to design base editors with reduced bystander effects. Nature Communications, 2021, 12, 6529.	12.8	10
152	The energy cost and optimal design of networks for biological discrimination. Journal of the Royal Society Interface, 2022, 19, 20210883.	3.4	10
153	Dynamic properties of molecular motors in the divided-pathway model. Physical Chemistry Chemical Physics, 2009, 11, 4815.	2.8	9
154	Mechanism of Genome Interrogation: How CRISPR RNA-Guided Cas9 Proteins Locate Specific Targets on DNA. Biophysical Journal, 2017, 113, 1416-1424.	0.5	9
155	Surface-Assisted Dynamic Search Processes. Journal of Physical Chemistry B, 2018, 122, 2243-2250.	2.6	9
156	Theoretical Investigation of Distributions of Run Lengths for Biological Molecular Motors. Journal of Physical Chemistry B, 2018, 122, 3272-3279.	2.6	9
157	Do We Understand the Mechanisms Used by Biological Systems to Correct Their Errors?. Journal of Physical Chemistry B, 2020, 124, 9289-9296.	2.6	9
158	Theoretical Investigations of the Dynamics of Chemical Reactions on Nanocatalysts with Multiple Active Sites. Journal of Physical Chemistry Letters, 2020, 11, 2330-2335.	4.6	9
159	A Mechanochemical Model of Transcriptional Bursting. Biophysical Journal, 2020, 118, 1213-1220.	0.5	9
160	The role of dynamic defects in transport of interacting molecular motors. Journal of Statistical Mechanics: Theory and Experiment, 2020, 2020, 043206.	2.3	9
161	DNA Looping and DNA Conformational Fluctuations Can Accelerate Protein Target Search. Journal of Physical Chemistry B, 2021, 125, 1727-1734.	2.6	9
162	Biased Random Walk in Crowded Environment: Breaking Uphill/Downhill Symmetry of Transition Times. Journal of Physical Chemistry Letters, 2020, 11, 4530-4535.	4.6	9

#	Article	IF	Citations
163	Transport of molecular motor dimers in burnt-bridge models. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, P12008-P12008.	2.3	8
164	Spatial Fluctuations Affect the Dynamics of Motor Proteins. Journal of Physical Chemistry B, 2008, 112, 11112-11121.	2.6	8
165	Interaction between motor domains can explain the complex dynamics of heterodimeric kinesins. Physical Review E, 2008, 77, 061912.	2.1	8
166	Enhancing silica surface deprotonation by using magnetic nanoparticles as heating agents. Journal Physics D: Applied Physics, 2019, 52, 465001.	2.8	8
167	Theoretical Analysis of Run Length Distributions for Coupled Motor Proteins. Journal of Physical Chemistry B, 2019, 123, 5805-5813.	2.6	8
168	Role of Intrinsically Disordered Regions in Acceleration of Proteinâ€“Protein Association. Journal of Physical Chemistry B, 2020, 124, 20-27.	2.6	8
169	Trade-Offs between Speed, Accuracy, and Dissipation in tRNA^{Ile} Aminoacylation. Journal of Physical Chemistry Letters, 2020, 11, 4001-4007.	4.6	8
170	Effect of local dissociations in bidirectional transport of driven particles. Journal of Statistical Mechanics: Theory and Experiment, 2020, 2020, 113202.	2.3	8
171	How Pioneer Transcription Factors Search for Target Sites on Nucleosomal DNA. Journal of Physical Chemistry B, 2022, 126, 4061-4068.	2.6	8
172	An invariance property of the repton model. Physica A: Statistical Mechanics and Its Applications, 1996, 229, 53-60.	2.6	7
173	Polymer dynamics in repton model at large fields. Journal of Chemical Physics, 2004, 120, 7784-7791.	3.0	7
174	Molecular motors interacting with their own tracks. Physical Review E, 2008, 77, 040901.	2.1	7
175	The role of source delocalization in the development of morphogen gradients. Physical Biology, 2015, 12, 026006.	1.8	7
176	Current-generating â€˜double layer shoeâ€™ with a porous sole. Journal of Physics Condensed Matter, 2016, 28, 464009.	1.8	7
177	Development of Morphogen Gradients with Spatially Varying Degradation Rates. Journal of Physical Chemistry B, 2016, 120, 2745-2750.	2.6	7
178	The effect of obstacles in multi-site protein target search with DNA looping. Journal of Chemical Physics, 2020, 152, 025101.	3.0	7
179	Thermodynamics of electrolytes on anisotropic lattices. Physical Review E, 2003, 68, 066110.	2.1	6
180	Current reversal and exclusion processes with history-dependent random walks. Europhysics Letters, 2011, 95, 30004.	2.0	6

#	Article	IF	Citations
181	Dynamics of force generation by confined actin filaments. Soft Matter, 2013, 9, 2389.	2.7	6
182	Pathway structure determination in complex stochastic networks with non-exponential dwell times. Journal of Chemical Physics, 2014, 140, 184102.	3.0	6
183	Theoretical analysis of degradation mechanisms in the formation of morphogen gradients. Journal of Chemical Physics, 2015, 143, 025102.	3.0	6
184	The effect of local dissociation on dynamics of interacting molecular motors. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 365001.	2.1	6
185	Facilitation of DNA loop formation by proteinâ€“DNA non-specific interactions. Soft Matter, 2019, 15, 5255-5263.	2.7	6
186	DNA Looping Mediated by Site-Specific Sfilâ€“DNA Interactions. Journal of Physical Chemistry B, 2021, 125, 4645-4653.	2.6	6
187	Understanding the Reaction Dynamics on Heterogeneous Catalysts Using a Simple Stochastic Approach. Journal of Physical Chemistry Letters, 2021, , 11802-11810.	4.6	6
188	Theoretical study of network junction models for totally asymmetric exclusion processes with interacting particles. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 083202.	2.3	5
189	Relaxation Times of Ligand-Receptor Complex Formation Control T Cell Activation. Biophysical Journal, 2020, 119, 182-189.	0.5	5
190	Asymmetry of forward/backward transition times as a non-equilibrium measure of complexity of microscopic mechanisms. Journal of Chemical Physics, 2020, 153, 124103.	3.0	5
191	Kinetic control of stationary flux ratios for a wide range of biochemical processes. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 8884-8889.	7.1	5
192	A deterministic model for one-dimensional excluded flow with local interactions. PLoS ONE, 2017, 12, e0182074.	2.5	5
193	Microscopic mechanisms of cooperative communications within single nanocatalysts. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	5
194	Optimal pathways control fixation of multiple mutations during cancer initiation. Biophysical Journal, 2022, 121, 3698-3705.	0.5	5
195	Continuous-time random walks at all times. Journal of Chemical Physics, 2009, 131, 234114.	3.0	4
196	Mechanisms of Protein Binding to DNA: Statistical Interactions are Important. Biophysical Journal, 2013, 104, 966-967.	0.5	4
197	All-time dynamics of continuous-time random walks on complex networks. Journal of Chemical Physics, 2013, 138, 084110.	3.0	4
198	A New Theoretical Approach to Analyze Complex Processes in Cytoskeleton Proteins. Journal of Physical Chemistry B, 2014, 118, 2966-2972.	2.6	4

#	Article	IF	Citations
199	Kinetic network model to explain gain-of-function mutations in ERK2 enzyme. Journal of Chemical Physics, 2019, 150, 155101.	3.0	4
200	Stochastic Mechanisms of Cell-Size Regulation in Bacteria. Journal of Physical Chemistry Letters, 2020, 11, 8777-8782.	4.6	4
201	Theoretical Analysis Reveals the Cost and Benefit of Proofreading in Coronavirus Genome Replication. Journal of Physical Chemistry Letters, 2021, 12, 2691-2698.	4.6	4
202	Stochastic Kinetics on Networks: When Slow Is Fast. Journal of Physical Chemistry B, 2014, 118, 10419-10425.	2.6	3
203	Theoretical Investigation of the Mechanisms of ERK2 Enzymatic Catalysis. Journal of Physical Chemistry B, 2016, 120, 10508-10514.	2.6	3
204	Theoretical Investigations of the Role of Mutations in Dynamics of Kinesin Motor Proteins. Journal of Physical Chemistry B, 2018, 122, 4653-4661.	2.6	3
205	Physical-chemical mechanisms of pattern formation during gastrulation. Journal of Chemical Physics, 2018, 148, 123302.	3.0	3
206	Dynamics of relaxation to a stationary state for interacting molecular motors. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 015601.	2.1	3
207	Theoretical insights into mechanisms of channel-facilitated molecular transport in the presence of stochastic gating. Journal of Chemical Physics, 2019, 150, 124111.	3.0	3
208	Different time scales in dynamic systems with multiple outcomes. Journal of Chemical Physics, 2020, 153, 054107.	3.0	3
209	Understanding the molecular mechanisms of transcriptional bursting. Physical Chemistry Chemical Physics, 2021, 23, 21399-21406.	2.8	3
210	Molecular Mechanisms of Active Transport in Antiporters: Kinetic Constraints and Efficiency. Journal of Physical Chemistry Letters, 2021, 12, 9588-9594.	4.6	3
211	Theoretical study of active secondary transport: Unexpected differences in molecular mechanisms for antiporters and symporters. Journal of Chemical Physics, 2022, 156, 085102.	3.0	3
212	Power of stochastic kinetic models: From biological signaling and antibiotic activities to T cell activation and cancer initiation dynamics. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2022, 12, .	14.6	3
213	Can we understand the mechanisms of tumor formation by analyzing dynamics of cancer initiation?. Europhysics Letters, 0, , .	2.0	3
214	Replica-scaling analysis of diffusion in quenched correlated random media. Physical Review A, 1992, 45, R5327-R5330.	2.5	2
215	Thermodynamics and phase transitions of electrolytes on lattices with different discretization parameters. Molecular Physics, 2005, 103, 2863-2872.	1.7	2
216	Dynamic properties of molecular motors in burnt-bridge models. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, P08002-P08002.	2.3	2

#	Article	IF	Citations
217	Protein-Assisted DNA Looping: A Delicate Balance among Interactions, Mechanics, and Entropy. Biophysical Journal, 2015, 109, 459-460.	0.5	2
218	Staying Together: Protein Molecules in Mesoscopic Clusters. Biophysical Journal, 2015, 109, 1759-1760.	0.5	2
219	Channel-facilitated molecular transport: The role of strength and spatial distribution of interactions. Chemical Physics, 2016, 481, 34-41.	1.9	2
220	How Viruses Enter Cells: A Story behind Bacteriophage T4. Biophysical Journal, 2017, 113, 4-5.	0.5	2
221	Crowding breaks the forward/backward symmetry of transition times in biased random walks. Journal of Chemical Physics, 2021, 154, 204104.	3.0	2
222	Physics of protein motility and motor proteins. Journal of Physics Condensed Matter, 2013, 25, 370301.	1.8	1
223	Single-cell stochastic modelling of the action of antimicrobial peptides on bacteria. Journal of the Royal Society Interface, 2021, 18, 20210392.	3.4	1
224	Discrete Stochastic Models of Single-Molecule Motor Proteins Dynamics. , 2008, , 313-335.		1
225	Surface-facilitated trapping by active sites: From catalysts to viruses. Journal of Chemical Physics, 2021, 155, 184106.	3.0	1
226	The role of extended range of interactions in the dynamics of interacting molecular motors. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 255601.	2.1	1
227	Depolymerization of F-Actin Produces a Pulling Force At the Plasma Membrane in vivo. Biophysical Journal, 2010, 98, 19a.	0.5	0
228	A Micromechanical Model of Cargo Transport by Multiple Microtubule Motors. Biophysical Journal, 2011, 100, 121a.	0.5	0
229	Random Hydrolysis Controls Dynamic Instability of Microtubules. Biophysical Journal, 2012, 102, 698a.	0.5	0
230	Theoretical Analysis of Molecular Transport Across Membrane Channels and Nanopores. Biological and Medical Physics Series, 2012, , 297-308.	0.4	0
231	Kinetic Mechanisms of Target Location by Inducible Transcription Factor Egr-1. Biophysical Journal, 2015, 108, 76a.	0.5	0
232	Protein Search for Multiple Targets on DNA. Biophysical Journal, 2016, 110, 236a.	0.5	0
233	Cooperativity of Kinesin Motor Proteins under External Loads. Biophysical Journal, 2017, 112, 426a.	0.5	0
234	Discrete-State Stochastic Modeling of Morphogen Gradient Formation. Methods in Molecular Biology, 2018, 1863, 199-221.	0.9	0

#	Article	IF	Citations
235	Unveiling Molecular Mechanisms of Kinesin-5 Function using Multiscale Computational Techniques. Biophysical Journal, 2019, 116, 409a.	0.5	0
236	(Invited) Computational Simulations of Selective Interactions between ssDNA and SWCNTs. ECS Meeting Abstracts, 2021, MA2021-01, 582-582.	0.0	0
237	Molecular Motor Dynamics, Modeling. , 2015, , 961-965.		0
238	Molecular Motors: A Theoristâ€™s Perspective. , 2016, , 297-321.		0
239	Steady-State Dynamics of Exclusion Process with Local Reversible Association of Particles. Journal of Statistical Physics, 2021, 185, 1.	1.2	0
240	Understanding Mechanisms of Secondary Active Transport by Analyzing the Effects of Mutations and Stoichiometry. Journal of Physical Chemistry Letters, 2022, 13, 5405-5412.	4.6	0
241	(Digital Presentation) Realistic Molecular Dynamics Modeling of ssDNA/SWCNT Hybrids. ECS Meeting Abstracts, 2022, MA2022-01, 715-715.	0.0	0