Roman Tuma

List of Publications by Year
in descending order

90 papers	3,880 citations	116194 36 h-index	156644 58 g-index
90 all docs	90 docs citations	90 times ranked	4549 citing authors

#	Article	IF	Citations
1	Distortion of the bilayer and dynamics of the BAM complex in lipid nanodiscs. Communications Biology, 2020, 3, 766.	2.0	32
2	Inter-domain dynamics in the chaperone SurA and multi-site binding to its outer membrane protein clients. Nature Communications, 2020, 11, 2155.	5.8	48
3	Estimating Constraints for Protection Factors from HDX-MS Data. Biophysical Journal, 2019, 116, 1194-1203.	0.2	20
4	Cut-and-Run: A Distinct Mechanism by which V(D)J Recombination Causes Genome Instability. Molecular Cell, 2019, 74, 584-597.e9.	4.5	20
5	Can Hydrogen-Deuterium Exchange Rates at Single Residue Level Be Obtained from HDX-MS Data?. Biophysical Journal, 2019, 116, 288a-289a.	0.2	0
6	Stability of local secondary structure determines selectivity of viral RNA chaperones. Nucleic Acids Research, 2018, 46, 7924-7937.	6.5	28
7	Dynamic action of the Sec machinery during initiation, protein translocation and termination. ELife, 2018, 7, .	2.8	52
8	Defining Dynamics of Membrane-Bound Pyrophosphatases by Experimental and Computational Single-Molecule FRET. Methods in Enzymology, 2018, 607, 93-130.	0.4	2
9	Inducing protein aggregation by extensional flow. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 4673-4678.	3.3	77
10	HBV RNA pre-genome encodes specific motifs that mediate interactions with the viral core protein that promote nucleocapsid assembly. Nature Microbiology, 2017, 2, 17098.	5.9	69
11	Effects of membrane curvature and pH on proton pumping activity of single cytochrome bo3 enzymes. Biochimica Et Biophysica Acta - Bioenergetics, 2017, 1858, 763-770.	0.5	11
12	Rewriting natureâ€™s assembly manual for a ssRNA virus. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 12255-12260.	3.3	47
13	Two-way communication between SecY and SecA suggests a Brownian ratchet mechanism for protein translocation. ELife, 2016, 5, .	2.8	90
14	Sizes of Long RNA Molecules Are Determined by the Branching Patterns of Their Secondary Structures. Biophysical Journal, 2016, 111, 2077-2085.	0.2	53
15	Biophysical Characterization of Chromatin Remodeling Protein CHD4. Methods in Molecular Biology, 2016, 1431, 175-193.	0.4	1
16	Mutations in RNA Polymerase Bridge Helix and Switch Regions Affect Active-Site Networks and Transcript-Assisted Hydrolysis. Journal of Molecular Biology, 2015, 427, 3516-3526.	2.0	6
17	Evidence that avian reovirus ÏƒNS is an RNA chaperone: implications for genome segment assortment. Nucleic Acids Research, 2015, 43, 7044-7057.	6.5	26
18	Revealing the density of encoded functions in a viral RNA. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 2227-2232.	3.3	64

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19	pH-induced molecular shedding drives the formation of amyloid fibril-derived oligomers. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5691-5696.	3.3	95
20	Single Enzyme Experiments Reveal a Long-Lifetime Proton Leak State in a Heme-Copper Oxidase. Journal of the American Chemical Society, 2015, 137, 16055-16063.	6.6	42
21	Domain movements of the enhancer-dependent sigma factor drive DNA delivery into the RNA polymerase active site: insights from single molecule studies. Nucleic Acids Research, 2014, 42, 5177-5190.	6.5	24
22	Functional Dynamics of Hexameric Helicase Probed by Hydrogen Exchange and Simulation. Biophysical Journal, 2014, 107, 983-990.	0.2	15
23	TALE proteins bind to both active and inactive chromatin. Biochemical Journal, 2014, 458, 153-158.	1.7	8
24	Packaging signals in single-stranded RNA viruses: natureâ€™s alternative to a purely electrostatic assembly mechanism. Journal of Biological Physics, 2013, 39, 277-287.	0.7	86
25	Structural and Functional Roles of Carotenoids in Chlorosomes. Journal of Bacteriology, 2013, 195, 1727-1734.	1.0	22
26	A two-stage mechanism of viral RNA compaction revealed by single molecule fluorescence. RNA Biology, 2013, 10, 481-489.	1.5	47
27	Tracking in atomic detail the functional specializations in viral RecA helicases that occur during evolution. Nucleic Acids Research, 2013, 41, 9396-9410.	6.5	23
28	Evidence that viral RNAs have evolved for efficient, two-stage packaging. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 15769-15774.	3.3	131
29	Mechanism of RNA Packaging Motor. Advances in Experimental Medicine and Biology, 2012, 726, 609-629.	0.8	12
30	Computational study of short-range interactions in bacteriochlorophyll aggregates. Computational and Theoretical Chemistry, 2012, 998, 87-97.	1.1	15
31	Concerted action of the PHD, chromo and motor domains regulates the human chromatin remodelling ATPase CHD4. FEBS Letters, 2012, 586, 2513-2521.	1.3	33
32	The lamellar spacing in self-assembling bacteriochlorophyll aggregates is proportional to the length of the esterifying alcohol. Photosynthesis Research, 2010, 104, 211-219.	1.6	31
33	Effect of Dimerizing Domains and Basic Residues on <i>In Vitro</i> and <i>In Vivo</i> Assembly of Mason-Pfizer Monkey Virus and Human Immunodeficiency Virus. Journal of Virology, 2010, 84, 1977-1988.	1.5	20
34	RNA remodeling by hexameric RNA helicases. RNA Biology, 2010, 7, 655-666.	1.5	17
35	Structure of Chlorosomes from the Green Filamentous Bacterium <i>Chloroflexus aurantiacus</i>. Journal of Bacteriology, 2009, 191, 6701-6708.	1.0	60
36	Folding and assembly of large macromolecular complexes monitored by hydrogen-deuterium exchange and mass spectrometry. Microbial Cell Factories, 2008, 7, 12.	1.9	17

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37	Detection of Intermediates and Kinetic Control during Assembly of Bacteriophage P22 Procapsid. Journal of Molecular Biology, 2008, 381, 1395-1406.	2.0	44
38	Evidence of PPII-like Helical Conformation and Glass Transition in a Self-Assembled Solid-State Polypeptideâ˘Surfactant Complex: Poly(<scp>l</scp>-histidine)/Docylbenzenesulfonic Acid. Biomacromolecules, 2008, 9, 1390-1397.	2.6	12
39	Hexanol-Induced Orderâ˘Disorder Transitions in Lamellar Self-Assembling Aggregates of Bacteriochlorophyll <i>c</i> in <i>Chlorobium tepidum</i> Chlorosomes. Langmuir, 2008, 24, 2035-2041.	1.6	16
40	Structural Basis of Mechanochemical Coupling in a Hexameric Molecular Motor. Journal of Biological Chemistry, 2008, 283, 3607-3617.	1.6	30
41	RNA Packaging Motor: From Structure to Quantum Mechanical Modelling and Sequential-Stochastic Mechanism. Computational and Mathematical Methods in Medicine, 2008, 9, 351-369.	0.7	4
42	Stiffer optical tweezers through real-time feedback control. Applied Physics Letters, 2008, 92, 224104.	1.5	64
43	Real-time control of optical tweezers. , 2007, 6644, 343.		2
44	The Role of the S-S Bridge in Retroviral Protease Function and Virion Maturation. Journal of Molecular Biology, 2007, 365, 1493-1504.	2.0	10
45	Step Length Measurementâ€"Theory and Simulation for Tethered Bead Constant-Force Single Molecule Assay. Biophysical Journal, 2007, 93, 795-805.	0.2	10
46	X-Ray Scattering and Electron Cryomicroscopy Study on the Effect of Carotenoid Biosynthesis to the Structure of Chlorobium tepidum Chlorosomes. Biophysical Journal, 2007, 93, 620-628.	0.2	28
47	Stochastic Detection of Motor Proteinâ€"RNA Complexes by Singleâ€Channel Current Recording. ChemPhysChem, 2007, 8, 2189-2194.	1.0	34
48	Structure of the Murray Valley encephalitis virus RNA helicase at 1.9 Ã… resolution. Protein Science, 2007, 16, 2294-2300.	3.1	30
49	Internal Structure of Chlorosomes from Brown-Colored Chlorobium Species and the Role of Carotenoids in Their Assembly. Biophysical Journal, 2006, 91, 1433-1440.	0.2	68
50	Hexameric molecular motors: P4 packaging ATPase unravels the mechanism. Cellular and Molecular Life Sciences, 2006, 63, 1095-1105.	2.4	49
51	Interaction of packaging motor with the polymerase complex of dsRNA bacteriophage. Virology, 2006, 351, 73-79.	1.1	31
52	Functional visualization of viral molecular motor by hydrogen-deuterium exchange reveals transient states. Nature Structural and Molecular Biology, 2005, 12, 460-466.	3.6	57
53	Raman spectroscopy of proteins: from peptides to large assemblies. Journal of Raman Spectroscopy, 2005, 36, 307-319.	1.2	384
54	In VitroAssembly of Bacteriophages: Folding, Kinetic Control and Intermediates. Journal of Theoretical Medicine, 2005, 6, 139-139.	0.5	0

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55	Cooperative Mechanism of RNA Packaging Motor. Journal of Biological Chemistry, 2005, 280, 23157-23164.	1.6	30
56	The Structure of the Bacteriophage PRD1 Spike Sheds Light on the Evolution of Viral Capsid Architecture. Molecular Cell, 2005, 18, 161-170.	4.5	54
57	Assembly of Doubleâ€Stranded RNA Bacteriophages. Advances in Virus Research, 2005, 64, 15-43.	0.9	36
58	Enzymatic Mechanism of RNA Translocation in Double-stranded RNA Bacteriophages. Journal of Biological Chemistry, 2004, 279, 1343-1350.	1.6	29
59	Packaging motor from double-stranded RNA bacteriophage Â12 acts as an obligatory passive conduit during transcription. Nucleic Acids Research, 2004, 32, 3515-3521.	6.5	32
60	Production, crystallization and preliminary X-ray crystallographic studies of the bacteriophage Ï•12 packaging motor. Acta Crystallographica Section D: Biological Crystallography, 2004, 60, 588-590.	2.5	13
61	Crystallization and preliminary X-ray diffraction analysis of bacteriophage Ï•12 packaging factor P7. Acta Crystallographica Section D: Biological Crystallography, 2004, 60, 2368-2370.	2.5	3
62	Lamellar Organization of Pigments in Chlorosomes, the Light Harvesting Complexes of Green Photosynthetic Bacteria. Biophysical Journal, 2004, 87, 1165-1172.	0.2	211
63	Atomic Snapshots of an RNA Packaging Motor Reveal Conformational Changes Linking ATP Hydrolysis to RNA Translocation. Cell, 2004, 118, 743-755.	13.5	151
64	Self-assembly of double-stranded RNA bacteriophages. Virus Research, 2004, 101, 93-100.	1.1	62
65	Locating the minor components of double-stranded RNA bacteriophageÏ•6 by neutron scattering. Journal of Applied Crystallography, 2003, 36, 525-529.	1.9	13
66	Order and disorder in crystals of hexameric NTPases from dsRNA bacteriophages. Acta Crystallographica Section D: Biological Crystallography, 2003, 59, 2337-2341.	2.5	4
67	Conserved Intermediates on the Assembly Pathway of Double-stranded RNA Bacteriophages. Journal of Molecular Biology, 2003, 328, 791-804.	2.0	44
68	RNA Packaging Device of Double-stranded RNA Bacteriophages, Possibly as Simple as Hexamer of P4 Protein. Journal of Biological Chemistry, 2003, 278, 48084-48091.	1.6	56
69	The Two ADF-H Domains of Twinfilin Play Functionally Distinct Roles in Interactions with Actin Monomers. Molecular Biology of the Cell, 2002, 13, 3811-3821.	0.9	75
70	Characterization of Subunit-Specific Interactions in a Double-Stranded RNA Virus:â€‰ Raman Difference Spectroscopy of the Ï†6 Procapsid. Biochemistry, 2002, 41, 11946-11953.	1.2	29
71	Hydrogen-deuterium exchange as a probe of folding and assembly in viral capsids11Edited by C. R. Matthews. Journal of Molecular Biology, 2001, 306, 389-396.	2.0	55
72	Self-Assembly of a Viral Molecular Machine from Purified Protein and RNA Constituents. Molecular Cell, 2001, 7, 845-854.	4.5	91

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73	Characterization of Subunit Structural Changes Accompanying Assembly of the Bacteriophage P22 Procapsidâ€. Biochemistry, 2001, 40, 665-674.	1.2	32
74	Solution Structure of Bacteriophage PRD1 Vertex Complex. Journal of Biological Chemistry, 2001, 276, 46187-46195.	1.6	35
75	Assembly of Bacteriophage PRD1 Spike Complex:Â Role of the Multidomain Protein P5â€. Biochemistry, 2000, 39, 10566-10573.	1.2	41
76	A novel Raman spectrophotometric method for quantitative measurement of nucleoside triphosphate hydrolysis. , 1999, 5, 3-8.		17
77	Assembly Dynamics of the Nucleocapsid Shell Subunit (P8) of Bacteriophage Ï†6â€. Biochemistry, 1999, 38, 15025-15033.	1.2	21
78	Identification and Characterization of the Domain Structure of Bacteriophage P22 Coat Protein. Biochemistry, 1999, 38, 14614-14623.	1.2	26
79	Cavity defects in the procapsid of bacteriophage P22 and the mechanism of capsid maturation. Journal of Molecular Biology, 1999, 287, 527-538.	2.0	21
80	Conformation, stability, and activeâ€site cysteine titrations of <i>Escherichia coli</i> D26A thioredoxin probed by Raman spectroscopy. Protein Science, 1998, 7, 193-200.	3.1	36
81	Structure and NTPase activity of the RNA-translocating protein (P4) of bacteriophage Ï†6. Journal of Molecular Biology, 1998, 279, 347-359.	2.0	64
82	A helical coat protein recognition domain of the bacteriophage P22 scaffolding protein. Journal of Molecular Biology, 1998, 281, 81-94.	2.0	52
83	Mechanism of capsid maturation in a double-stranded DNA virus. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 9885-9890.	3.3	64
84	Mechanisms of virus assembly probed by Raman spectroscopy: the icosahedral bacteriophage P22. Biophysical Chemistry, 1997, 68, 17-31.	1.5	40
85	Theory, design, and characterization of a microdialysis flow cell for Raman spectroscopy. Biophysical Journal, 1996, 71, 3454-3466.	0.2	24
86	Structural Transitions in the Scaffolding and Coat Proteins of P22 Virus during Assembly and Disassemblyâ€. Biochemistry, 1996, 35, 4619-4627.	1.2	53
87	Structure, Interactions and Dynamics ofPRD1Virus I. Coupling of Subunit Folding and Capsid Assembly. Journal of Molecular Biology, 1996, 257, 87-101.	2.0	47
88	Structure, Interactions and Dynamics ofPRD1Virus II. Organization of the Viral Membrane and DNA. Journal of Molecular Biology, 1996, 257, 102-115.	2.0	37
89	Purification of Viruses and Macromolecular Assemblies for Structural Investigations Using a Novel Ion Exchange Method. Virology, 1994, 201, 1-7.	1.1	42
90	Cysteine conformation and sulfhydryl interactions in proteins and viruses. 3. Quantitative measurement of the Raman S-H band intensity and frequency. Biophysical Journal, 1993, 65, 1066-1072.	0.2	23