Piotr E Marszalek

List of Publications by Year
in descending order

67 papers	6,182 citations	172457 29 h-index	88630 70 g-index
73 all docs	73 docs citations	73 times ranked	4788 citing authors

#	Article	IF	Citations
1	The molecular elasticity of the extracellular matrix protein tenascin. Nature, 1998, 393, 181-185.	27.8	820
2	Mechanical unfolding intermediates in titin modules. Nature, 1999, 402, 100-103.	27.8	789
3	Reverse engineering of the giant muscle protein titin. Nature, 2002, 418, 998-1002.	27.8	487
4	Polysaccharide elasticity governed by chairâ€"boat transitions of the glucopyranose ring. Nature, 1998, 396, 661-664.	27.8	436
5	Mechanical design of proteins studied by single-molecule force spectroscopy and protein engineering. Progress in Biophysics and Molecular Biology, 2000, 74, 63-91.	2.9	400
6	Nanospring behaviour of ankyrin repeats. Nature, 2006, 440, 246-249.	27.8	354
7	The study of protein mechanics with the atomic force microscope. Trends in Biochemical Sciences, 1999, 24, 379-384.	7.5	313
8	Stretching single molecules into novel conformations using the atomic force microscope. Nature Structural Biology, 2000, 7, 719-724.	9.7	283
9	Point mutations alter the mechanical stability of immunoglobulin modules. Nature Structural Biology, 2000, 7, 1117-1120.	9.7	206
10	Single protein misfolding events captured by atomic force microscopy. Nature Structural Biology, 1999, 6, 1025-1028.	9.7	188
11	Chair-boat transitions in single polysaccharide molecules observed with force-ramp AFM. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 4278-4283.	7.1	141
12	Fingerprinting polysaccharides with single-molecule atomic force microscopy. Nature Biotechnology, 2001, 19, 258-262.	17.5	139
13	UVA Generates Pyrimidine Dimers in DNA Directly. Biophysical Journal, 2009, 96, 1151-1158.	0.5	132
14	Strong, Tough, Stretchable, and Selfâ€Adhesive Hydrogels from Intrinsically Unstructured Proteins. Advanced Materials, 2017, 29, 1604743.	21.0	130
15	Direct Measurements of Base Stacking Interactions in DNA by Single-Molecule Atomic-Force Spectroscopy. Physical Review Letters, 2007, 99, 018302.	7.8	129
16	Stretching single polysaccharides and proteins using atomic force microscopy. Chemical Society Reviews, 2012, 41, 3523.	38.1	118
17	Structure and specificity of the RNA-guided endonuclease Cas9 during DNA interrogation, target binding and cleavage. Nucleic Acids Research, 2015, 43, 8924-8941.	14.5	113
18	The micro-mechanics of single molecules studied with atomic force microscopy. Journal of Physiology, 1999, 520, 5-14.	2.9	68

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19	Mechanical Unfolding of an Ankyrin Repeat Protein. Biophysical Journal, 2010, 98, 1294-1301.	0.5	56
20	Detecting Ultraviolet Damage in Single DNA Molecules by Atomic Force Microscopy. Biophysical Journal, 2007, 93, 1758-1767.	0.5	53
21	Direct Detection of the Formation of V-Amylose Helix by Single Molecule Force Spectroscopy. Journal of the American Chemical Society, 2006, 128, 9387-9393.	13.7	51
22	Fast and Forceful Refolding of Stretched Î±-Helical Solenoid Proteins. Biophysical Journal, 2010, 98, 3086-3092.	0.5	49
23	Elastic Properties of Single Amylose Chains in Water:Â A Quantum Mechanical and AFM Study. Journal of the American Chemical Society, 2004, 126, 9033-9041.	13.7	45
24	The Force-Driven Conformations of Heparin Studied with Single Molecule Force Microscopy. Biophysical Journal, 2003, 85, 2696-2704.	0.5	38
25	Atomic force microscopy captures MutS tetramers initiating DNA mismatch repair. EMBO Journal, 2011, 30, 2881-2893.	7.8	37
26	Direct Detection of Inter-residue Hydrogen Bonds in Polysaccharides by Single-Molecule Force Spectroscopy. Angewandte Chemie - International Edition, 2005, 44, 2723-2727.	13.8	36
27	Full Reconstruction of a Vectorial Protein Folding Pathway by Atomic Force Microscopy and Molecular Dynamics Simulations*. Journal of Biological Chemistry, 2010, 285, 38167-38172.	3.4	36
28	Solvent effects on the elasticity of polysaccharide molecules in disordered and ordered states by single-molecule force spectroscopy. Polymer, 2006, 47, 2526-2532.	3.8	35
29	Single molecule mechanical manipulation for studying biological properties of proteins, <scp>DNA</scp>, and sugars. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2014, 6, 211-229.	6.1	34
30	Chaperones Rescue Luciferase Folding by Separating Its Domains. Journal of Biological Chemistry, 2014, 289, 28607-28618.	3.4	31
31	Inhibitor Binding Increases the Mechanical Stability of Staphylococcal Nuclease. Biophysical Journal, 2011, 100, 1094-1099.	0.5	30
32	Identification of Sugar Isomers by Single-Molecule Force Spectroscopy. Journal of the American Chemical Society, 2006, 128, 5596-5597.	13.7	27
33	Nanomechanics of Streptavidin Hubs for Molecular Materials. Advanced Materials, 2011, 23, 5684-5688.	21.0	26
34	Nanoscale Detection of Ionizing Radiation Damage to DNA by Atomic Force Microscopy. Small, 2008, 4, 288-294.	10.0	22
35	Mechanical Anisotropy of Ankyrin Repeats. Biophysical Journal, 2012, 102, 1118-1126.	0.5	20
36	Nanomechanical Control of Glucopyranose Rotamers. Journal of the American Chemical Society, 2004, 126, 6218-6219.	13.7	19

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37	Direct Observation of Multimer Stabilization in the Mechanical Unfolding Pathway of a Protein Undergoing Oligomerization. ACS Nano, 2015, 9, 1189-1197.	14.6	18
38	Capturing the Mechanical Unfolding Pathway of a Large Protein with Coiledâ€Coil Probes. Angewandte Chemie - International Edition, 2014, 53, 13429-13433.	13.8	17
39	AFM-Based Single-Molecule Force Spectroscopy of Proteins. Methods in Molecular Biology, 2018, 1814, 35-47.	0.9	16
40	Detecting Solvent-Driven Transitions of poly(A) to Double-Stranded Conformations by Atomic Force Microscopy. Biophysical Journal, 2009, 96, 2918-2925.	0.5	14
41	A Nanoscale Force Probe for Gauging Intermolecular Interactions. Angewandte Chemie - International Edition, 2012, 51, 1903-1906.	13.8	13
42	Origin of Overstretching Transitions in Single-Stranded Nucleic Acids. Physical Review Letters, 2013, 111, 188302.	7.8	13
43	Single-molecule Force Spectroscopy Reveals the Calcium Dependence of the Alternative Conformations in the Native State of a Î²Î³-Crystallin Protein. Journal of Biological Chemistry, 2016, 291, 18263-18275.	3.4	13
44	Warhammers for Peaceful Times. Biophysical Journal, 2018, 114, 1-2.	0.5	13
45	Separating DNA with Different Topologies by Atomic Force Microscopy in Comparison with Gel Electrophoresis. Journal of Physical Chemistry B, 2010, 114, 12162-12165.	2.6	12
46	Improving single molecule force spectroscopy through automated real-time data collection and quantification of experimental conditions. Ultramicroscopy, 2014, 136, 7-14.	1.9	12
47	Modular, Nondegenerate Polyprotein Scaffolds for Atomic Force Spectroscopy. Biomacromolecules, 2016, 17, 2502-2505.	5.4	12
48	Competing Pathways and Multiple Folding Nuclei in a Large Multidomain Protein, Luciferase. Biophysical Journal, 2017, 112, 1829-1840.	0.5	12
49	Nanomechanical Fingerprints of UV Damage To DNA. Small, 2007, 3, 809-813.	10.0	11
50	Mutation of Conserved Histidines Alters Tertiary Structure and Nanomechanics of Consensus Ankyrin Repeats. Journal of Biological Chemistry, 2012, 287, 19115-19121.	3.4	10
51	Atomic force microscopy captures the initiation of methyl-directed DNA mismatch repair. DNA Repair, 2015, 35, 71-84.	2.8	10
52	Can Dissipative Properties of Single Molecules Be Extracted from a Force Spectroscopy Experiment?. Biophysical Journal, 2016, 111, 1163-1172.	0.5	10
53	Mechanical Stability of a Small, Highly-Luminescent Engineered Protein NanoLuc. International Journal of Molecular Sciences, 2021, 22, 55.	4.1	9
54	Simulating Force-Induced Conformational Transitions in Polysaccharides with the SMD Replica Exchange Method. Biophysical Journal, 2006, 91, L57-L59.	0.5	7

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55	Unraveling the Mechanical Unfolding Pathways of a Multidomain Protein: Phosphoglycerate Kinase. Biophysical Journal, 2018, 115, 46-58.	0.5	6
56	An estimate to the first approximation of microtubule rupture force. European Biophysics Journal, 2019, 48, 569-577.	2.2	6
57	Reconstruction of mechanical unfolding and refolding pathways of proteins with atomic force spectroscopy and computer simulations. Methods, 2022, 197, 39-53.	3.8	6
58	Exploiting a Mechanical Perturbation of a Titin Domain to Identify How Force Field Parameterization Affects Protein Refolding Pathways. Journal of Chemical Theory and Computation, 2020, 16, 3240-3252.	5.3	5
59	Relevance of the Speed and Direction of Pulling in Simple Modular Proteins. Journal of Chemical Theory and Computation, 2018, 14, 2910-2918.	5.3	4
60	Construction of a Single-Axis Molecular Puller for Measuring Polysaccharide and Protein Mechanics by Atomic Force Microscopy. Cold Spring Harbor Protocols, 2007, 2007, pdb.prot4899-pdb.prot4899.	0.3	4
61	Detecting methylation with force. Nature Nanotechnology, 2010, 5, 765-766.	31.5	3
62	Force Spectroscopy of Single Protein Molecules Using an Atomic Force Microscope. Journal of Visualized Experiments, 2019, , .	0.3	3
63	Piecewise All-Atom SMD Simulations Reveal Key Secondary Structures in Luciferase Unfolding Pathway. Biophysical Journal, 2020, 119, 2251-2261.	0.5	3
64	A â€˜Semi-Protected Oligonucleotide Recombinationâ€™ Assay for DNA Mismatch Repairin vivoSuggests Different Modes of Repair for Lagging Strand Mismatches. Nucleic Acids Research, 2017, 45, gkw1339.	14.5	2
65	Endonuclease-independent DNA mismatch repair processes on the lagging strand. DNA Repair, 2018, 68, 41-49.	2.8	2
66	Meeting report â€“ NSF-sponsored workshop â€˜Progress and Prospects of Single-Molecule Force Spectroscopy in Biological and Chemical Sciencesâ€™. Journal of Cell Science, 2020, 133, .	2.0	1
67	Unraveling the Mysteries of Chaperone Interactions of the Myosin Head. Biophysical Journal, 2014, 107, 541-542.	0.5	0