Jan Lipfert

List of Publications by Year
in descending order

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104 papers	5,541 citations	76294 40 h-index	88593 70 g-index
118 all docs	118 docs citations	118 times ranked	5720 citing authors

#	Article	IF	Citations
1	Understanding Nucleic Acidâ€“Ion Interactions. Annual Review of Biochemistry, 2014, 83, 813-841.	5.0	358
2	Small-Angle X-Ray Scattering from RNA, Proteins, and Protein Complexes. Annual Review of Biophysics and Biomolecular Structure, 2007, 36, 307-327.	18.3	270
3	Magnetic torque tweezers: measuring torsional stiffness in DNA and RecA-DNA filaments. Nature Methods, 2010, 7, 977-980.	9.0	263
4	Quantitative and Comprehensive Decomposition of the Ion Atmosphere around Nucleic Acids. Journal of the American Chemical Society, 2007, 129, 14981-14988.	6.6	255
5	Size and Shape of Detergent Micelles Determined by Small-Angle X-ray Scattering. Journal of Physical Chemistry B, 2007, 111, 12427-12438.	1.2	219
6	Cellular and Molecular Probing of Intact Human Organs. Cell, 2020, 180, 796-812.e19.	13.5	187
7	Dependence of Micelle Size and Shape on Detergent Alkyl Chain Length and Head Group. PLoS ONE, 2013, 8, e62488.	1.1	182
8	Quantitative Modeling and Optimization of Magnetic Tweezers. Biophysical Journal, 2009, 96, 5040-5049.	0.2	171
9	Double-stranded RNA under force and torque: Similarities to and striking differences from double-stranded DNA. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15408-15413.	3.3	162
10	Evaluation of Ion Binding to DNA Duplexes Using a Size-Modified Poisson-Boltzmann Theory. Biophysical Journal, 2007, 93, 3202-3209.	0.2	134
11	Salt dependence of the radius of gyration and flexibility of single-stranded DNA in solution probed by small-angle x-ray scattering. Physical Review E, 2012, 86, 021901.	0.8	131
12	Unusual compactness of a polyproline type II structure. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 11698-11703.	3.3	124
13	Freely orbiting magnetic tweezers to directly monitor changes in the twist of nucleic acids. Nature Communications, 2011, 2, 439.	5.8	120
14	Structural Transitions and Thermodynamics of a Glycine-Dependent Riboswitch from Vibrio cholerae. Journal of Molecular Biology, 2007, 365, 1393-1406.	2.0	116
15	Long single Î±-helical tail domains bridge the gap between structure and function of myosin VI. Nature Structural and Molecular Biology, 2008, 15, 591-597.	3.6	109
16	Quantitative Guidelines for Force Calibration through Spectral Analysis ofÂMagnetic Tweezers Data. Biophysical Journal, 2010, 99, 1292-1302.	0.2	97
17	Torsional sensing of small-molecule binding using magnetic tweezers. Nucleic Acids Research, 2010, 38, 7122-7132.	6.5	92
18	Studying genomic processes at the single-molecule level: introducing the tools and applications. Nature Reviews Genetics, 2013, 14, 9-22.	7.7	83

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19	A repulsive field: advances in the electrostatics of the ion atmosphere. Current Opinion in Chemical Biology, 2008, 12, 619-625.	2.8	80
20	Mixing and Matching Detergents for Membrane Protein NMR Structure Determination. Journal of the American Chemical Society, 2009, 131, 7320-7326.	6.6	79
21	Twist-Bend Coupling and the Torsional Response of Double-Stranded DNA. Physical Review Letters, 2017, 118, 217801.	2.9	79
22	The Complete VS Ribozyme in Solution Studied by Small-Angle X-Ray Scattering. Structure, 2008, 16, 1357-1367.	1.6	78
23	High Spatiotemporal-Resolution Magnetic Tweezers: Calibration and Applications for DNA Dynamics. Biophysical Journal, 2015, 109, 2113-2125.	0.2	77
24	Probing the mechanical properties, conformational changes, and interactions of nucleic acids with magnetic tweezers. Journal of Structural Biology, 2017, 197, 26-36.	1.3	77
25	Critical Assessment of Nucleic Acid Electrostatics via Experimental and Computational Investigation of an Unfolded State Ensemble. Journal of the American Chemical Society, 2008, 130, 12334-12341.	6.6	74
26	Electromagnetic Torque Tweezers: A Versatile Approach for Measurement of Single-Molecule Twist and Torque. Nano Letters, 2012, 12, 3634-3639.	4.5	70
27	Multiplexed protein force spectroscopy reveals equilibrium protein folding dynamics and the low-force response of von Willebrand factor. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 18798-18807.	3.3	69
28	The Ligand-Free State of the TPP Riboswitch: A Partially Folded RNA Structure. Journal of Molecular Biology, 2010, 396, 153-165.	2.0	67
29	Torque Spectroscopy for the Study of Rotary Motion in Biological Systems. Chemical Reviews, 2015, 115, 1449-1474.	23.0	65
30	Cationâ€“Anion Interactions within the Nucleic Acid Ion Atmosphere Revealed by Ion Counting. Journal of the American Chemical Society, 2015, 137, 14705-14715.	6.6	65
31	Protein Misfolding and Amyloid Formation for the Peptide GNNQQNY from Yeast Prion Protein Sup35: Simulation by Reaction Path Annealing. Journal of Molecular Biology, 2005, 349, 648-658.	2.0	64
32	A force calibration standard for magnetic tweezers. Review of Scientific Instruments, 2014, 85, 123114.	0.6	63
33	Biological Magnetometry: Torque on Superparamagnetic Beads in Magnetic Fields. Physical Review Letters, 2015, 114, 218301.	2.9	61
34	Probing the salt dependence of the torsional stiffness of DNA by multiplexed magnetic torque tweezers. Nucleic Acids Research, 2017, 45, 5920-5929.	6.5	60
35	Dissecting electrostatic screening, specific ion binding, and ligand binding in an energetic model for glycine riboswitch folding. Rna, 2010, 16, 708-719.	1.6	57
36	The temperature dependence of the helical twist of DNA. Nucleic Acids Research, 2018, 46, 7998-8009.	6.5	55

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37	Do conformational biases of simple helical junctions influence RNA folding stability and specificity?. Rna, 2009, 15, 2195-2205.	1.6	53
38	Force sensing by the vascular protein von Willebrand factor is tuned by a strong intermonomer interaction. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1208-1213.	3.3	51
39	Explaining the striking difference in twist-stretch coupling between DNA and RNA: A comparative molecular dynamics analysis. Nucleic Acids Research, 2015, 43, gkv1028.	6.5	50
40	Nucleosome Assembly Dynamics Involve Spontaneous Fluctuations in the Handedness of Tetrasomes. Cell Reports, 2015, 10, 216-225.	2.9	48
41	Expression, purification, and characterization ofThermotoga maritimamembrane proteins for structure determination. Protein Science, 2006, 15, 961-975.	3.1	46
42	Absolute Intramolecular Distance Measurements with Angstrom-Resolution Using Anomalous Small-Angle X-ray Scattering. Nano Letters, 2016, 16, 5353-5357.	4.5	42
43	Time-Resolved Small-Angle X-ray Scattering Reveals Millisecond Transitions of a DNA Origami Switch. Nano Letters, 2018, 18, 2672-2676.	4.5	42
44	Free Energy Landscape and Dynamics of Supercoiled DNA by High-Speed Atomic Force Microscopy. ACS Nano, 2018, 12, 11907-11916.	7.3	39
45	A tethered ligand assay to probe SARS-CoV-2:ACE2 interactions. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2114397119.	3.3	38
46	Sample holder for small-angle x-ray scattering static and flow cell measurements. Review of Scientific Instruments, 2006, 77, 046108.	0.6	37
47	Low-resolution models for nucleic acids from small-angle X-ray scattering with applications to electrostatic modeling. Journal of Applied Crystallography, 2007, 40, s229-s234.	1.9	37
48	Blind Predictions of DNA and RNA Tweezers Experiments with Force and Torque. PLoS Computational Biology, 2014, 10, e1003756.	1.5	36
49	A method to track rotational motion for use in single-molecule biophysics. Review of Scientific Instruments, 2011, 82, 103707.	0.6	35
50	Single-Molecule Magnetic Tweezers Studies of Type IB Topoisomerases. Methods in Molecular Biology, 2009, 582, 71-89.	0.4	34
51	Twisting DNA by salt. Nucleic Acids Research, 2022, 50, 5726-5738.	6.5	34
52	Conformational Changes and Flexibility of DNA Devices Observed by Small-Angle X-ray Scattering. Nano Letters, 2016, 16, 4871-4879.	4.5	33
53	Molecular structure, DNA binding mode, photophysical properties and recommendations for use of SYBR Gold. Nucleic Acids Research, 2021, 49, 5143-5158.	6.5	31
54	Mis-translation of a Computationally Designed Protein Yields an Exceptionally Stable Homodimer: Implications for Protein Engineering and Evolution. Journal of Molecular Biology, 2006, 362, 1004-1024.	2.0	29

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55	Riboswitch Conformations Revealed by Small-Angle X-Ray Scattering. Methods in Molecular Biology, 2009, 540, 141-159.	0.4	26
56	Structural and torsional properties of the RAD51-dsDNA nucleoprotein filament. Nucleic Acids Research, 2013, 41, 7023-7030.	6.5	25
57	Structure, mechanics, and binding mode heterogeneity of LEDGF/p75â€“DNA nucleoprotein complexes revealed by scanning force microscopy. Nanoscale, 2014, 6, 4611-4619.	2.8	24
58	High-throughput AFM analysis reveals unwrapping pathways of H3 and CENP-A nucleosomes. Nanoscale, 2021, 13, 5435-5447.	2.8	24
59	Dynamics and energy landscape of DNA plectoneme nucleation. Physical Review E, 2018, 98, .	0.8	21
60	Tuning Micelle Dimensions and Properties with Binary Surfactant Mixtures. Langmuir, 2014, 30, 13353-13361.	1.6	20
61	Dynamics of the Buckling Transition in Double-Stranded DNA and RNA. Biophysical Journal, 2020, 118, 1690-1701.	0.2	20
62	pH-Dependent Interactions in Dimers Govern the Mechanics and Structure of von Willebrand Factor. Biophysical Journal, 2016, 111, 312-322.	0.2	18
63	Stretching and Heating Single DNA Molecules with Optically Trapped Goldâ€“Silica Janus Particles. ACS Photonics, 2017, 4, 2843-2851.	3.2	18
64	Quantitative evaluation of statistical errors in small-angle X-ray scattering measurements. Journal of Applied Crystallography, 2017, 50, 621-630.	1.9	18
65	Designed anchoring geometries determine lifetimes of biotinâ€“streptavidin bonds under constant load and enable ultra-stable coupling. Nanoscale, 2020, 12, 21131-21137.	2.8	18
66	Analysis of small-angle X-ray scattering data of proteinâ€“detergent complexes by singular value decomposition. Journal of Applied Crystallography, 2007, 40, s235-s239.	1.9	17
67	The free energy landscape of retroviral integration. Nature Communications, 2019, 10, 4738.	5.8	17
68	Compensatory Mechanisms in Temperature Dependence of DNA Double Helical Structure: Bending and Elongation. Journal of Chemical Theory and Computation, 2020, 16, 2857-2863.	2.3	16
69	A Mo-anode-based in-house source for small-angle X-ray scattering measurements of biological macromolecules. Review of Scientific Instruments, 2016, 87, 025103.	0.6	15
70	Applying torque to the Escherichia coli flagellar motor using magnetic tweezers. Scientific Reports, 2017, 7, 43285.	1.6	15
71	Temperatureâ€Dependent Atomic Models of Detergent Micelles Refined against Smallâ€Angle Xâ€Ray Scattering Data. Angewandte Chemie - International Edition, 2018, 57, 5635-5639.	7.2	15
72	Use of Small Angle X-ray Scattering (SAXS) to Characterize Conformational States of Functional RNAs. Methods in Enzymology, 2009, 469, 237-251.	0.4	14

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73	Radiation-Induced Damage in Serine PhosphateInsights into a Mechanism for Direct DNA Strand Breakage. Journal of Physical Chemistry B, 2004, 108, 8036-8042.	1.2	12
74	Structural Architecture of the Nucleosome Remodeler ISWI Determined from Cross-Linking, Mass Spectrometry, SAXS, and Modeling. Structure, 2018, 26, 282-294.e6.	1.6	11
75	Quantifying the Precision of Single-Molecule Torque and Twist Measurements Using Allan Variance. Biophysical Journal, 2018, 114, 1970-1979.	0.2	11
76	Gold nanocrystal labels provide a sequenceâ€“toâ€“3D structure map in SAXS reconstructions. Science Advances, 2018, 4, eaar4418.	4.7	11
77	Measuring Single-Molecule Twist and Torque in Multiplexed Magnetic Tweezers. Methods in Molecular Biology, 2018, 1814, 75-98.	0.4	11
78	The structural ensemble of a Holliday junction determined by X-ray scattering interference. Nucleic Acids Research, 2020, 48, 8090-8098.	6.5	10
79	Quantifying the influence of the ion cloud on SAXS profiles of charged proteins. Physical Chemistry Chemical Physics, 2018, 20, 26351-26361.	1.3	9
80	The Dissociation Rate of Acetylacetonate Ligands Governs the Size of Ferrimagnetic Zinc Ferrite Nanocubes. ACS Applied Materials & Interfaces, 2020, 12, 217-226.	4.0	9
81	Quantifying epigenetic modulation of nucleosome breathing by high-throughput AFM imaging. Biophysical Journal, 2022, 121, 841-851.	0.2	9
82	Magnetic Tweezers for the Measurement of Twist and Torque. Journal of Visualized Experiments, 2014, , .	0.2	8
83	Recording and Analyzing Nucleic Acid Distance Distributions with Xâ€Ray Scattering Interferometry (XSI). Current Protocols in Nucleic Acid Chemistry, 2018, 73, e54.	0.5	8
84	Ru(TAP)32+ uses multivalent binding to accelerate and constrain photo-adduct formation on DNA. Chemical Communications, 2019, 55, 8764-8767.	2.2	8
85	Deciphering the Gene Regulatory Landscape Encoded in DNA Biophysical Features. IScience, 2019, 21, 638-649.	1.9	7
86	A benchmark data set for the mechanical properties of double-stranded DNA and RNA under torsional constraint. Data in Brief, 2020, 30, 105404.	0.5	6
87	A High-throughput Pipeline to Determine DNA and Nucleosome Conformations by AFM Imaging. Bio-protocol, 2021, 11, e4180.	0.2	4
88	Optical Investigation of Individual Red Blood Cells for Determining Cell Count and Cellular Hemoglobin Concentration in a Microfluidic Channel. Micromachines, 2021, 12, 358.	1.4	4
89	Mixing and Matching Detergents for Membrane Protein NMR Structure Determination. Biophysical Journal, 2009, 96, 195a.	0.2	1
90	A Gentle Twist on DNA. Physics Magazine, 0, 14, .	0.1	1

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91	Scaling Behavior of Single Stranded DNA Measured by Small Angle X-ray Scattering. Biophysical Journal, 2009, 96, 347a.	0.2	0
92	Small-Molecule Binding to DNA under Tension and Twist Studied by Magnetic Tweezers. Biophysical Journal, 2009, 96, 216a.	0.2	0
93	Supercoiling Double-Stranded RNA. Biophysical Journal, 2010, 98, 468a.	0.2	0
94	Topoisomerase IB Activity Investigated By Single Molecule Magnetic Tweezers: Mechanisms of Cytotoxicity. Biophysical Journal, 2010, 98, 63a.	0.2	0
95	Quantitative Guidelines for Force Calibration Through Spectral Analysis of Magnetic Tweezers Data. Biophysical Journal, 2011, 100, 481a.	0.2	0
96	Characterization of Supercoiled Double-Stranded RNA, and Comparison to Double-Stranded DNA. Biophysical Journal, 2011, 100, 236a.	0.2	0
97	RNA Structure, Function, and (Thermo-) Dynamics: A SAXS and Single-Molecule Perspective. Biophysical Journal, 2011, 100, 1a-2a.	0.2	0
98	Introducing the Electromagnetic Torque Tweezers. Biophysical Journal, 2012, 102, 386a.	0.2	0
99	Modulating the Physical Properties of Micelles for Membrane Protein Investigations. Biophysical Journal, 2013, 104, 44a.	0.2	0
100	Quantifying the Resolution of Single-Molecule Torque Measurements by Allan Variance. Biophysical Journal, 2014, 106, 450a.	0.2	0
101	Nucleosome Dynamics Involve Spontaneous Fluctuations in the Handedness of Tetrasomes. Biophysical Journal, 2014, 106, 74a.	0.2	0
102	Magnetization Properties of Superparamagnetic Beads. Biophysical Journal, 2014, 106, 393a.	0.2	0
103	Nucleosome Assembly Dynamics Involve Spontaneous Fluctuations in the Handedness of Tetrasomes. Biophysical Journal, 2015, 108, 205a.	0.2	0
104	Temperatureâ€Dependent Atomic Models of Detergent Micelles Refined against Smallâ€Angle Xâ€Ray Scattering Data. Angewandte Chemie, 2018, 130, 5737-5741.	1.6	0