Lois Pollack

List of Publications by Year
in descending order

76 papers	4,248 citations	101543 36 h-index	118850 62 g-index
79 all docs	79 docs citations	79 times ranked	4667 citing authors

#	Article	IF	Citations
1	Ionic strength-dependent persistence lengths of single-stranded RNA and DNA. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 799-804.	7.1	322
2	Electrostatics of Strongly Charged Biological Polymers: Ion-Mediated Interactions and Self-Organization in Nucleic Acids and Proteins. Annual Review of Physical Chemistry, 2010, 61, 171-189.	10.8	213
3	Rapid compaction during RNA folding. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 4266-4271.	7.1	207
4	2017 publication guidelines for structural modelling of small-angle scattering data from biomolecules in solution: an update. Acta Crystallographica Section D: Structural Biology, 2017, 73, 710-728.	2.3	205
5	Structural and functional conservation of the programmed â˜1 ribosomal frameshift signal of SARS coronavirus 2 (SARS-CoV-2). Journal of Biological Chemistry, 2020, 295, 10741-10748.	3.4	163
6	The Fastest Global Events in RNA Folding: Electrostatic Relaxation and Tertiary Collapse of the Tetrahymena Ribozyme. Journal of Molecular Biology, 2003, 332, 311-319.	4.2	130
7	Achieving Uniform Mixing in a Microfluidic Device:Â Hydrodynamic Focusing Prior to Mixing. Analytical Chemistry, 2006, 78, 4465-4473.	6.5	123
8	Inter-DNA Attraction Mediated by Divalent Counterions. Physical Review Letters, 2007, 99, 038104.	7.8	120
9	Enzyme intermediates captured â€œon the flyâ€•by mix-and-inject serial crystallography. BMC Biology, 2018, 16, 59.	3.8	117
10	Conformational changes of calmodulin upon Ca ²⁺ binding studied with a microfluidic mixer. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 542-547.	7.1	113
11	Small-Angle X-ray Scattering and Single-Molecule FRET Spectroscopy Produce Highly Divergent Views of the Low-Denaturant Unfolded State. Journal of Molecular Biology, 2012, 418, 226-236.	4.2	92
12	Structural enzymology using X-ray free electron lasers. Structural Dynamics, 2017, 4, 044003.	2.3	92
13	Double-flow focused liquid injector for efficient serial femtosecond crystallography. Scientific Reports, 2017, 7, 44628.	3.3	90
14	RNA and Its Ionic Cloud: Solution Scattering Experiments and Atomically Detailed Simulations. Biophysical Journal, 2012, 102, 819-828.	0.5	89
15	Asymmetric unwrapping of nucleosomal DNA propagates asymmetric opening and dissociation of the histone core. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 334-339.	7.1	89
16	Mixing injector enables time-resolved crystallography with high hit rate at X-ray free electron lasers. Structural Dynamics, 2016, 3, 054301.	2.3	84
17	Counting Ions around DNA with Anomalous Small-Angle X-ray Scattering. Journal of the American Chemical Society, 2010, 132, 16334-16336.	13.7	83
18	Revealing transient structures of nucleosomes as DNA unwinds. Nucleic Acids Research, 2014, 42, 8767-8776.	14.5	73

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19	Both helix topology and counterion distribution contribute to the more effective charge screening in dsRNA compared with dsDNA. Nucleic Acids Research, 2009, 37, 3887-3896.	14.5	72
20	Concordant Exploration of the Kinetics of RNA Folding from Global and Local Perspectives. Journal of Molecular Biology, 2006, 355, 282-293.	4.2	68
21	Double-focusing mixing jet for XFEL study of chemical kinetics. Journal of Synchrotron Radiation, 2014, 21, 1364-1366.	2.4	68
22	Why double-stranded RNA resists condensation. Nucleic Acids Research, 2014, 42, 10823-10831.	14.5	67
23	T box RNA decodes both the information content and geometry of tRNA to affect gene expression. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 7240-7245.	7.1	65
24	Measuring Inter-DNA Potentials in Solution. Physical Review Letters, 2006, 96, 138101.	7.8	64
25	SAXS Studies of Ionâ€“Nucleic Acid Interactions. Annual Review of Biophysics, 2011, 40, 225-242.	10.0	64
26	<scp>SAXS</scp> studies of <scp>RNA</scp>: structures, dynamics, and interactions with partners. Wiley Interdisciplinary Reviews RNA, 2016, 7, 512-526.	6.4	60
27	Abrupt Transition from a Free, Repulsive to a Condensed, Attractive DNA Phase, Induced by Multivalent Polyamine Cations. Physical Review Letters, 2008, 101, 228101.	7.8	57
28	Mono- and Trivalent Ions around DNA: A Small-Angle Scattering Study of Competition and Interactions. Biophysical Journal, 2008, 95, 287-295.	0.5	55
29	Determining the Locations of Ions and Water around DNA from X-Ray Scattering Measurements. Biophysical Journal, 2015, 108, 2886-2895.	0.5	52
30	Hinge Stiffness Is a Barrier to RNA Folding. Journal of Molecular Biology, 2008, 379, 859-870.	4.2	48
31	Spermine Condenses DNA, but Not RNA Duplexes. Biophysical Journal, 2017, 112, 22-30.	0.5	48
32	Double-Stranded RNA Resists Condensation. Physical Review Letters, 2011, 106, 108101.	7.8	47
33	Opposing Effects of Multivalent Ions on the Flexibility of DNA and RNA. Physical Review Letters, 2016, 117, 028101.	7.8	47
34	The impact of base stacking on the conformations and electrostatics of single-stranded DNA. Nucleic Acids Research, 2017, 45, 3932-3943.	14.5	47
35	Microfluidic Mixing Injector Holder Enables Routine Structural Enzymology Measurements with Mix-and-Inject Serial Crystallography Using X-ray Free Electron Lasers. Analytical Chemistry, 2019, 91, 7139-7144.	6.5	44
36	Observation of substrate diffusion and ligand binding in enzyme crystals using high-repetition-rate mix-and-inject serial crystallography. IUCrJ, 2021, 8, 878-895.	2.2	44

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37	Time-Resolved Dimerization of a PAS-LOV Protein Measured with Photocoupled Small Angle X-ray Scattering. Journal of the American Chemical Society, 2008, 130, 12226-12227.	13.7	41
38	Time resolved SAXS and RNA folding. Biopolymers, 2011, 95, 543-549.	2.4	40
39	Structural changes of tailless bacteriophage Î¦X174 during penetration of bacterial cell walls. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 13708-13713.	7.1	40
40	Revealing the distinct folding phases of an RNA three-helix junction. Nucleic Acids Research, 2018, 46, 7354-7365.	14.5	38
41	Local DNA Sequence Controls Asymmetry of DNA Unwrapping from Nucleosome Core Particles. Biophysical Journal, 2018, 115, 773-781.	0.5	36
42	Polyelectrolyte properties of single stranded DNA measured using SAXS and singleâ€molecule FRET: Beyond the wormlike chain model. Biopolymers, 2013, 99, 1032-1045.	2.4	34
43	Accurate small and wide angle x-ray scattering profiles from atomic models of proteins and nucleic acids. Journal of Chemical Physics, 2014, 141, 22D508.	3.0	33
44	The Role of Correlation and Solvation in Ion Interactions with B-DNA. Biophysical Journal, 2016, 110, 315-326.	0.5	33
45	Closing the lid on DNA end-to-end stacking interactions. Applied Physics Letters, 2008, 92, 223901-2239013.	3.3	31
46	Making water-soluble integral membrane proteins in vivo using an amphipathic protein fusion strategy. Nature Communications, 2015, 6, 6826.	12.8	30
47	Using Anomalous Small Angle X-Ray Scattering to Probe the Ion Atmosphere Around Nucleic Acids. Methods in Enzymology, 2009, 469, 391-410.	1.0	26
48	Visualizing single-stranded nucleic acids in solution. Nucleic Acids Research, 2017, 45, gkw1297.	14.5	25
49	Proteinâ€“DNA and ionâ€“DNA interactions revealed through contrast variation SAXS. Biophysical Reviews, 2016, 8, 139-149.	3.2	25
50	The structural plasticity of nucleic acid duplexes revealed by WAXS and MD. Science Advances, 2021, 7, .	10.3	25
51	Reconstructing three-dimensional shape envelopes from time-resolved small-angle X-ray scattering data. Journal of Applied Crystallography, 2008, 41, 1046-1052.	4.5	24
52	Succinyl-5-aminoimidazole-4-carboxamide-1-ribose 5â€²-Phosphate (SAICAR) Activates Pyruvate Kinase Isoform M2 (PKM2) in Its Dimeric Form. Biochemistry, 2016, 55, 4731-4736.	2.5	24
53	Time-Resolved X-ray Scattering and RNA Folding. Methods in Enzymology, 2009, 469, 253-268.	1.0	22
54	The ATPase motor of the Chd1 chromatin remodeler stimulates DNA unwrapping from the nucleosome. Nucleic Acids Research, 2018, 46, 4978-4990.	14.5	21

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55	Divalent ions tune the kinetics of a bacterial GTPase center rRNA folding transition from secondary to tertiary structure. Rna, 2018, 24, 1828-1838.	3.5	20
56	Tuning RNA Flexibility with Helix Length and Junction Sequence. Biophysical Journal, 2015, 109, 2644-2653.	0.5	19
57	Visualizing Disordered Single-Stranded RNA: Connecting Sequence, Structure, and Electrostatics. Journal of the American Chemical Society, 2020, 142, 109-119.	13.7	19
58	Role of Ion Valence in the Submillisecond Collapse and Folding of a Small RNA Domain. Biochemistry, 2013, 52, 1539-1546.	2.5	18
59	Effects of a Protecting Osmolyte on the Ion Atmosphere Surrounding DNA Duplexes. Biochemistry, 2011, 50, 8540-8547.	2.5	16
60	Salt Dependence of A-Form RNA Duplexes: Structures and Implications. Journal of Physical Chemistry B, 2019, 123, 9773-9785.	2.6	16
61	Conformations of an RNA Helix-Junction-Helix Construct Revealed by SAXS Refinement of MD Simulations. Biophysical Journal, 2019, 116, 19-30.	0.5	16
62	Specificity of the Double-Stranded RNA-Binding Domain from the RNA-Activated Protein Kinase PKR for Double-Stranded RNA: Insights from Thermodynamics and Small-Angle X-ray Scattering. Biochemistry, 2012, 51, 9312-9322.	2.5	15
63	Understanding nucleic acid structural changes by comparing wide-angle x-ray scattering (WAXS) experiments to molecular dynamics simulations. Journal of Chemical Physics, 2016, 144, 205102.	3.0	15
64	Extracting water and ion distributions from solution x-ray scattering experiments. Journal of Chemical Physics, 2016, 144, 214105.	3.0	15
65	Multi-shell model of ion-induced nucleic acid condensation. Journal of Chemical Physics, 2016, 144, 155101.	3.0	13
66	Structural analyses of an RNA stability element interacting with poly(A). Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	13
67	Machine learning deciphers structural features of RNA duplexes measured with solution X-ray scattering. IUCrJ, 2020, 7, 870-880.	2.2	11
68	Characterizing Enzyme Reactions in Microcrystals for Effective Mix-and-Inject Experiments using X-ray Free-Electron Lasers. Analytical Chemistry, 2020, 92, 13864-13870.	6.5	10
69	How the Conformations of an Internal Junction Contribute to Fold an RNA Domain. Journal of Physical Chemistry B, 2018, 122, 11363-11372.	2.6	9
70	Visualizing a viral genome with contrast variation small angle X-ray scattering. Journal of Biological Chemistry, 2020, 295, 15923-15932.	3.4	8
71	Ribosomal Protein L11 Selectively Stabilizes a Tertiary Structure of the GTPase Center rRNA Domain. Journal of Molecular Biology, 2020, 432, 991-1007.	4.2	7
72	Insights into the structural stability of major groove RNA triplexes by WAXS-guided MD simulations. Cell Reports Physical Science, 2022, 3, 100971.	5.6	5

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73	Elucidating the Role of Microprocessor Protein DGCR8 in Bending RNA Structures. Biophysical Journal, 2020, 119, 2524-2536.	0.5	4
74	A microfabricated fixed path length silicon sample holder improves background subtraction for cryoSAXS. Journal of Applied Crystallography, 2015, 48, 227-237.	4.5	3
75	Solution structure(s) of trinucleosomes from contrast variation SAXS. Nucleic Acids Research, 2021, 49, 5028-5037.	14.5	3
76	Following RNA Folding From Local and Global Perspectives. , 2013, , 187-203.		0