Lorna Dougan

List of Publications by Year
in descending order

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51
papers

1,645
citations

331670

21
h-index

302126

39
g-index

54
all docs

54
docs citations

54
times ranked

1701
citing authors

#	ARTICLE	IF	CITATIONS
1	Single molecule force spectroscopy using polyproteins. Chemical Society Reviews, 2012, 41, 4781.	38.1	153
2	Single-Molecule Force Spectroscopy Measurements of Bond Elongation during a Bimolecular Reaction. Journal of the American Chemical Society, 2008, 130, 6479-6487.	13.7	135
3	Direct observation of an ensemble of stable collapsed states in the mechanical folding of ubiquitin. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 10534-10539.	7.1	116
4	Excess Entropy in Alcoholâˆ’Water Solutions:Â A Simple Clustering Explanationâ€. Journal of Physical Chemistry B, 2006, 110, 3472-3476.	2.6	101
5	Signatures of hydrophobic collapse in extended proteins captured with force spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 7916-7921.	7.1	99
6	The physics of pulling polyproteins: a review of single molecule force spectroscopy using the AFM to study protein unfolding. Reports on Progress in Physics, 2016, 79, 076601.	20.1	99
7	Single homopolypeptide chains collapse into mechanically rigid conformations. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 12605-12610.	7.1	84
8	Solvent molecules bridge the mechanical unfolding transition state of a protein. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 3185-3190.	7.1	73
9	Towards design principles for determining the mechanical stability of proteins. Physical Chemistry Chemical Physics, 2013, 15, 15767.	2.8	57
10	Stable Single Î±-Helices Are Constant Force Springs in Proteins. Journal of Biological Chemistry, 2014, 289, 27825-27835.	3.4	54
11	What happens to the structure of water in cryoprotectant solutions?. Faraday Discussions, 2013, 167, 159.	3.2	51
12	Osmolyte-induced separation of the mechanical folding phases of ubiquitin. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 10540-10545.	7.1	46
13	Temperature-Dependent Segregation in Alcoholâ€“Water Binary Mixtures Is Driven by Water Clustering. Journal of Physical Chemistry B, 2018, 122, 7884-7894.	2.6	41
14	Characterization of long and stable de novo single alpha-helix domains provides novel insight into their stability. Scientific Reports, 2017, 7, 44341.	3.3	40
15	A Singleâ€Molecule Perspective on the Role of Solvent Hydrogen Bonds in Protein Folding and Chemical Reactions. ChemPhysChem, 2008, 9, 2836-2847.	2.1	39
16	Highly compressed water structure observed in a perchlorate aqueous solution. Nature Communications, 2017, 8, 919.	12.8	39
17	Assessing the Potential of Folded Globular Polyproteins As Hydrogel Building Blocks. Biomacromolecules, 2017, 18, 636-646.	5.4	35
18	Rapid and Robust Polyprotein Production Facilitates Single-Molecule Mechanical Characterization of Î²-Barrel Assembly Machinery Polypeptide Transport Associated Domains. ACS Nano, 2015, 9, 8811-8821.	14.6	26

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19	Differential Effects of Hydrophobic Core Packing Residues for Thermodynamic and Mechanical Stability of a Hyperthermophilic Protein. Langmuir, 2016, 32, 7392-7402.	3.5	24
20	Control of Nanoscale <i>In Situ</i> Protein Unfolding Defines Network Architecture and Mechanics of Protein Hydrogels. ACS Nano, 2021, 15, 11296-11308.	14.6	24
21	Single-Molecule Force Spectroscopy Identifies a Small Cold Shock Protein as Being Mechanically Robust. Journal of Physical Chemistry B, 2013, 117, 1819-1826.	2.6	23
22	Single molecule protein stabilisation translates to macromolecular mechanics of a protein network. Soft Matter, 2020, 16, 6389-6399.	2.7	23
23	Single molecule force spectroscopy reveals the temperature-dependent robustness and malleability of a hyperthermophilic protein. Soft Matter, 2013, 9, 9016.	2.7	18
24	Structural evidence for solvent-stabilisation by aspartic acid as a mechanism for halophilic protein stability in high salt concentrations. Physical Chemistry Chemical Physics, 2016, 18, 18054-18062.	2.8	18
25	Reaction Rate Governs the Viscoelasticity and Nanostructure of Folded Protein Hydrogels. Biomacromolecules, 2020, 21, 4253-4260.	5.4	18
26	Molecular self-assembly in a model amphiphile system. Physical Chemistry Chemical Physics, 2010, 12, 10221.	2.8	17
27	Network Growth and Structural Characteristics of Globular Protein Hydrogels. Macromolecules, 2020, 53, 7335-7345.	4.8	15
28	Tuning Protein Hydrogel Mechanics through Modulation of Nanoscale Unfolding and Entanglement in Postgelation Relaxation. ACS Nano, 2022, 16, 10667-10678.	14.6	15
29	Probing osmolyte participation in the unfolding transition state of a protein. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 9759-9764.	7.1	13
30	Optimizing the calculation of energy landscape parameters from single-molecule protein unfolding experiments. Physical Review E, 2015, 91, 012710.	2.1	13
31	Hydrophilic Association in a Dilute Glutamine Solution Persists Independent of Increasing Temperature. Journal of Physical Chemistry B, 2015, 119, 15644-15651.	2.6	11
32	The emerging role of hydrogen bond interactions in polyglutamine structure, stability and association. Soft Matter, 2013, 9, 2359-2364.	2.7	10
33	Tuning protein mechanics through an ionic cluster graft from an extremophilic protein. Soft Matter, 2016, 12, 2688-2699.	2.7	10
34	The hierarchical emergence of worm-like chain behaviour from globular domain polymer chains. Soft Matter, 2019, 15, 8778-8789.	2.7	10
35	Trimethylamine<i>N</i>-oxide (TMAO) resists the compression of water structure by magnesium perchlorate: terrestrial kosmotrope<i>vs.</i>Martian chaotrope. Physical Chemistry Chemical Physics, 2020, 22, 4924-4937.	2.8	10
36	Myosin tails and single Î±-helical domains. Biochemical Society Transactions, 2015, 43, 58-63.	3.4	9

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37	Solute Specific Perturbations to Water Structure and Dynamics in Tertiary Aqueous Solution. Journal of Physical Chemistry B, 2020, 124, 10983-10993.	2.6	9
38	Probing the Liquid-State Structure and Dynamics of Aqueous Solutions by Fluorescence Spectroscopy. Journal of Fluorescence, 2004, 14, 91-97.	2.5	8
39	Tandem Repeating Modular Proteins Avoid Aggregation in Single Molecule Force Spectroscopy Experiments. Journal of Physical Chemistry A, 2007, 111, 12402-12408.	2.5	8
40	Bridging Structure, Dynamics, and Thermodynamics: An Example Study on Aqueous Potassium Halides. Journal of Physical Chemistry B, 2021, 125, 12774-12786.	2.6	8
41	Life in extreme environments: single molecule force spectroscopy as a tool to explore proteins from extremophilic organisms. Biochemical Society Transactions, 2015, 43, 179-185.	3.4	7
42	Biomolecular self-assembly under extreme Martian mimetic conditions. Molecular Physics, 2019, 117, 3398-3407.	1.7	7
43	Modeling the mechanical stiffness of pancreatic ductal adenocarcinoma. Matrix Biology Plus, 2022, 14, 100109.	3.5	7
44	Force-Clamp Spectroscopy of Single Proteins. Springer Series in Chemical Physics, 2010, , 317-335.	0.2	6
45	Intermediate Structural Hierarchy in Biological Networks Modulates the Fractal Dimension and Force Distribution of Percolating Clusters. Biomacromolecules, 2021, 22, 4191-4198.	5.4	5
46	Determining Stable Single Alpha Helical (SAH) Domain Properties by Circular Dichroism and Atomic Force Microscopy. Methods in Molecular Biology, 2018, 1805, 185-211.	0.9	3
47	Hierarchical biomechanics: student engagement activities with a focus on biological physics. Physics Education, 2020, 55, 025015.	0.5	2
48	SAWstitch: exploring self-avoiding walks through hand embroidery. Physics Education, 2022, 57, 045029.	0.5	2
49	Hierarchical biomechanics: an introductory teaching framework. Physics Education, 2020, 55, 055002.	0.5	1
50	Solvent Bridging Determines The Molecular Architecture Of The Unfolding Transition State Of A Protein. Biophysical Journal, 2009, 96, 72a-73a.	0.5	0
51	Unravelling the Properties of Single Î±-Helical Domains in Myosin and other Proteins. Biophysical Journal, 2014, 106, 626a.	0.5	0