

Doug Barrick

List of Publications by Year in descending order

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72
papers

3,563
citations

109321

35
h-index

144013

57
g-index

77
all docs

77
docs citations

77
times ranked

2900
citing authors

#	ARTICLE	IF	CITATIONS
1	Three-state analysis of sperm whale apomyoglobin folding. <i>Biochemistry</i> , 1993, 32, 3790-3796.	2.5	241
2	The Association Rate Constant for Heme Binding to Globin Is Independent of Protein Structure. <i>Biochemistry</i> , 1996, 35, 11293-11299.	2.5	221
3	Replacement of the Proximal Ligand of Sperm Whale Myoglobin with Free Imidazole in the Mutant His-93.fwdarw.Gly. <i>Biochemistry</i> , 1994, 33, 6546-6554.	2.5	183
4	An experimentally determined protein folding energy landscape. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 14102-14107.	7.1	153
5	Measuring the stability of partly folded proteins using TMAO. <i>Protein Science</i> , 2003, 12, 1522-1529.	7.6	145
6	The folding of single domain proteins—have we reached a consensus?. <i>Current Opinion in Structural Biology</i> , 2011, 21, 12-24.	5.7	132
7	Consensus sequence design as a general strategy to create hyperstable, biologically active proteins. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 11275-11284.	7.1	105
8	Functional cavities in proteins: A general method for proximal ligand substitution in myoglobin. <i>Journal of the American Chemical Society</i> , 1994, 116, 6981-6982.	13.7	101
9	Size and Sequence and the Volume Change of Protein Folding. <i>Journal of the American Chemical Society</i> , 2011, 133, 6020-6027.	13.7	101
10	Control of transcriptional activity by design of charge patterning in the intrinsically disordered RAM region of the Notch receptor. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E9243-E9252.	7.1	95
11	Folding landscapes of ankyrin repeat proteins: experiments meet theory. <i>Current Opinion in Structural Biology</i> , 2008, 18, 27-34.	5.7	92
12	Studies of the Ankyrin Repeats of the <i>Drosophila melanogaster</i> Notch Receptor. 2. Solution Stability and Cooperativity of Unfolding. <i>Biochemistry</i> , 2001, 40, 14357-14367.	2.5	89
13	Quantitative Dissection of the Notch:CSL Interaction: Insights into the Notch-mediated Transcriptional Switch. <i>Journal of Molecular Biology</i> , 2007, 365, 577-589.	4.2	89
14	Structure and stability of the ankyrin domain of the <i>Drosophila</i> Notch receptor. <i>Protein Science</i> , 2009, 12, 2622-2632.	7.6	89
15	Repeat-protein folding: New insights into origins of cooperativity, stability, and topology. <i>Archives of Biochemistry and Biophysics</i> , 2008, 469, 83-99.	3.0	83
16	A test of the role of the proximal histidines in the Perutz model for cooperativity in haemoglobin. <i>Nature Structural and Molecular Biology</i> , 1997, 4, 78-83.	8.2	76
17	The Contribution of Entropy, Enthalpy, and Hydrophobic Desolvation to Cooperativity in Repeat-Protein Folding. <i>Structure</i> , 2011, 19, 349-360.	3.3	67
18	Protein Folding and Stability Using Denaturants. <i>Methods in Cell Biology</i> , 2008, 84, 295-325.	1.1	59

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19	Studies of the Ankyrin Repeats of the <i>Drosophila melanogaster</i> Notch Receptor. 1. Solution Conformational and Hydrodynamic Properties. <i>Biochemistry</i> , 2001, 40, 14344-14356.	2.5	58
20	Limits of Cooperativity in a Structurally Modular Protein: Response of the Notch Ankyrin Domain to Analogous Alanine Substitutions in Each Repeat. <i>Journal of Molecular Biology</i> , 2002, 324, 373-386.	4.2	58
21	Enhancing the Stability and Folding Rate of a Repeat Protein through the Addition of Consensus Repeats. <i>Journal of Molecular Biology</i> , 2007, 365, 1187-1200.	4.2	53
22	Rerouting the Folding Pathway of the Notch Ankyrin Domain by Reshaping the Energy Landscape. <i>Journal of the American Chemical Society</i> , 2008, 130, 5681-5688.	13.7	52
23	Structure and Notch Receptor Binding of the Tandem WWE Domain of Deltex. <i>Structure</i> , 2005, 13, 1599-1611.	3.3	51
24	The Notch Ankyrin Domain Folds via a Discrete, Centralized Pathway. <i>Structure</i> , 2006, 14, 1303-1312.	3.3	49
25	Direct Observation of Parallel Folding Pathways Revealed Using a Symmetric Repeat Protein System. <i>Biophysical Journal</i> , 2014, 107, 220-232.	0.5	49
26	The Tolerance of a Modular Protein to Duplication and Deletion of Internal Repeats. <i>Journal of Molecular Biology</i> , 2004, 344, 169-178.	4.2	47
27	The effects of conformational heterogeneity on the binding of the Notch intracellular domain to effector proteins: a case of biologically tuned disorder. <i>Biochemical Society Transactions</i> , 2008, 36, 157-166.	3.4	46
28	What have we learned from the studies of two-state folders, and what are the unanswered questions about two-state protein folding?. <i>Physical Biology</i> , 2009, 6, 015001.	1.8	44
29	The Notch Transcription Activation Complex Makes Its Move. <i>Cell</i> , 2006, 124, 883-885.	28.9	43
30	The Leucine-Rich Repeat Domain of Internalin B Folds along a Polarized N-Terminal Pathway. <i>Structure</i> , 2008, 16, 705-714.	3.3	42
31	Chapter 4 Analysis of Repeat Protein Folding Using Nearest Neighbor Statistical Mechanical Models. <i>Methods in Enzymology</i> , 2009, 455, 95-125.	1.0	41
32	Experimental Characterization of the Folding Kinetics of the Notch Ankyrin Domain. <i>Journal of Molecular Biology</i> , 2005, 352, 266-281.	4.2	40
33	Thermodynamic Analysis of the CSL-Notch Interaction. <i>Journal of Biological Chemistry</i> , 2010, 285, 6681-6692.	3.4	40
34	Relationships between the temperature dependence of solvent denaturation and the denaturant dependence of protein stability curves. <i>Biophysical Chemistry</i> , 2002, 101-102, 221-237.	2.8	39
35	Unique Features of the Folding Landscape of a Repeat Protein Revealed by Pressure Perturbation. <i>Biophysical Journal</i> , 2010, 98, 2712-2721.	0.5	38
36	Depletion and replacement of protein metal ligands. <i>Current Opinion in Biotechnology</i> , 1995, 6, 411-418.	6.6	35

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37	Predicting coupling limits from an experimentally determined energy landscape. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 4907-4912.	7.1	34
38	High-Resolution Mapping of a Repeat Protein Folding Free Energy Landscape. Biophysical Journal, 2016, 111, 2368-2376.	0.5	32
39	Distal Ligand Reactivity and Quaternary Structure Studies of Proximally Detached Hemoglobins. Biochemistry, 2001, 40, 3780-3795.	2.5	30
40	A Naturally Occurring Repeat Protein with High Internal Sequence Identity Defines a New Class of TPR-like Proteins. Structure, 2015, 23, 2055-2065.	3.3	28
41	C-terminal deletion of leucine-rich repeats from YopM reveals a heterogeneous distribution of stability in a cooperatively folded protein. Protein Science, 2009, 18, 1948-1960.	7.6	27
42	Nonspecific hydrophobic interactions stabilize an equilibrium intermediate of apomyoglobin at a key position within the AGH region. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 12514-12519.	7.1	26
43	Extreme stability in de novo-designed repeat arrays is determined by unusually stable short-range interactions. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7539-7544.	7.1	25
44	Folding thermodynamics and kinetics of the leucine-rich repeat domain of the virulence factor Internalin B. Protein Science, 2008, 17, 43-53.	7.6	24
45	Creating a Homeodomain with High Stability and DNA Binding Affinity by Sequence Averaging. Journal of the American Chemical Society, 2017, 139, 5051-5060.	13.7	24
46	The use of consensus sequence information to engineer stability and activity in proteins. Methods in Enzymology, 2020, 643, 149-179.	1.0	23
47	Thermodynamics, Kinetics, and Salt dependence of Folding of YopM, a Large Leucine-rich Repeat Protein. Journal of Molecular Biology, 2008, 383, 1195-1209.	4.2	22
48	Direct NMR Detection of Bifurcated Hydrogen Bonding in the α -Helix N-Caps of Ankyrin Repeat Proteins. Journal of the American Chemical Society, 2015, 137, 1008-1011.	13.7	22
49	Effect of Multiple Prolyl Isomerization Reactions on the Stability and Folding Kinetics of the Notch Ankyrin Domain: Experiment and Theory. Journal of Molecular Biology, 2005, 352, 253-265.	4.2	21
50	The Role of Introns in Repeat Protein Gene Formation. Journal of Molecular Biology, 2006, 360, 258-266.	4.2	21
51	Capping motifs stabilize the leucine-rich repeat protein PP32 and rigidify adjacent repeats. Protein Science, 2014, 23, 801-811.	7.6	19
52	Highly polarized C-terminal transition state of the leucine-rich repeat domain of PP32 is governed by local stability. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E2298-306.	7.1	19
53	Effects of Linker Length and Transient Secondary Structure Elements in the Intrinsically Disordered Notch RAM Region on Notch Signaling. Journal of Molecular Biology, 2015, 427, 3587-3597.	4.2	18
54	The consequences of cavity creation on the folding landscape of a repeat protein depend upon context. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E8153-E8161.	7.1	17

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55	Trans-substitution of the proximal hydrogen bond in myoglobin: I. Structural consequences of hydrogen bond deletion. , 2000, 39, 278-290.		16
56	Insertion of Endocellulase Catalytic Domains into Thermostable Consensus Ankyrin Scaffolds: Effects on Stability and Cellulolytic Activity. Applied and Environmental Microbiology, 2013, 79, 6684-6696.	3.1	16
57	Biological Regulation via Ankyrin Repeat Folding. ACS Chemical Biology, 2009, 4, 19-22.	3.4	15
58	Predicting repeat protein folding kinetics from an experimentally determined folding energy landscape. Protein Science, 2009, 18, 58-68.	7.6	14
59	Deletion of internal structured repeats increases the stability of a leucine-rich repeat protein, YopM. Biophysical Chemistry, 2011, 159, 152-161.	2.8	14
60	An improved experimental system for determining small folding entropy changes resulting from proline to alanine substitutions. Protein Science, 2005, 14, 2429-2435.	7.6	12
61	Analysis of Tandem Repeat Protein Folding Using Nearest-Neighbor Models. Annual Review of Biophysics, 2021, 50, 245-265.	10.0	12
62	Folding by Consensus. Structure, 2003, 11, 486-487.	3.3	11
63	A Second Backbone: The Contribution of a Buried Asparagine Ladder to the Global and Local Stability of a Leucine-Rich Repeat Protein. Biochemistry, 2019, 58, 3480-3493.	2.5	11
64	Trans-substitution of the proximal hydrogen bond in myoglobin: II. Energetics, functional consequences, and implications for hemoglobin allostery. , 2000, 39, 291-308.		10
65	Broken TALEs: Transcription Activator-like Effectors Populate Partly Folded States. Biophysical Journal, 2016, 111, 2395-2403.	0.5	10
66	Mapping the Deltex-Binding Surface on the Notch Ankyrin Domain Using Analytical Ultracentrifugation. Journal of Molecular Biology, 2011, 414, 243-259.	4.2	9
67	Functional instability allows access to DNA in longer transcription Activator-Like effector (TALE) arrays. ELife, 2019, 8, .	6.0	8
68	Nuclear Magnetic Resonance Spectroscopy in the Study of Hemoglobin Cooperativity. Methods in Enzymology, 2004, 379, 28-54.	1.0	7
69	High-Pressure NMR and SAXS Reveals How Capping Modulates Folding Cooperativity of the pp32 Leucine-rich Repeat Protein. Journal of Molecular Biology, 2018, 430, 1336-1349.	4.2	7
70	Synergistic enhancement of cellulase pairs linked by consensus ankyrin repeats: Determination of the roles of spacing, orientation, and enzyme identity. Proteins: Structure, Function and Bioinformatics, 2016, 84, 1043-1054.	2.6	4
71	A collection of programs for one-dimensional Ising analysis of linear repeat proteins with point substitutions. Protein Science, 2021, 30, 168-186.	7.6	4
72	Surface residues and nonadditive interactions stabilize a consensus homeodomain protein. Biophysical Journal, 2021, 120, 5267-5278.	0.5	2