Rui J Sousa

List of Publications by Year
in descending order

93 papers	4,567 citations	76326 40 h-index	106344 65 g-index
98 all docs	98 docs citations	98 times ranked	3664 citing authors

#	Article	IF	Citations
1	Crystal structure of bacteriophage T7 RNA polymerase at 3.3 Ã… resolution. Nature, 1993, 364, 593-599.	27.8	381
2	Structural Basis of Interdomain Communication in the Hsc70 Chaperone. Molecular Cell, 2005, 20, 513-524.	9.7	281
3	Structural Basis of J Cochaperone Binding and Regulation of Hsp70. Molecular Cell, 2007, 28, 422-433.	9.7	206
4	Structure of the Hsp110:Hsc70 Nucleotide Exchange Machine. Molecular Cell, 2008, 31, 232-243.	9.7	202
5	A model for the mechanism of polymerase translocation 1 1Edited by A. R. Fersht. Journal of Molecular Biology, 1997, 265, 8-19.	4.2	187
6	Structural and mechanistic relationships between nucleic acid polymerases. Trends in Biochemical Sciences, 1996, 21, 186-190.	7.5	146
7	Efficient synthesis of nucleic acids heavily modified with non- canonical ribose 2'-groups using a mutantT7 RNA polymerase (RNAP). Nucleic Acids Research, 1999, 27, 1561-1563.	14.5	127
8	A Y639F/H784A T7 RNA polymerase double mutant displays superior properties for synthesizing RNAs with non-canonical NTPs. Nucleic Acids Research, 2002, 30, 138e-138.	14.5	121
9	<i>In Situ</i>Hybridization Mapping of Glucocorticoid Receptor Messenger Ribonucleic Acid in Rat Brain. Molecular Endocrinology, 1989, 3, 481-494.	3.7	111
10	Mechanism of Ribose 2â€˜-Group Discrimination by an RNA Polymerase. Biochemistry, 1997, 36, 8231-8242.	2.5	104
11	Characterization of Hsp70 Binding and Nucleotide Exchange by the Yeast Hsp110 Chaperone Sse1. Biochemistry, 2006, 45, 15075-15084.	2.5	101
12	Misincorporation by Wild-Type and Mutant T7 RNA Polymerases:Â Identification of Interactions That Reduce Misincorporation Rates by Stabilizing the Catalytically Incompetent Open Conformationâ€. Biochemistry, 2000, 39, 11571-11580.	2.5	98
13	Use of glycerol, polyols and other protein structure stabilizing agents in protein crystallization. Acta Crystallographica Section D: Biological Crystallography, 1995, 51, 271-277.	2.5	95
14	Synthesis and applications of RNAs with position-selective labelling and mosaic composition. Nature, 2015, 522, 368-372.	27.8	95
15	Model for the mechanism of bacteriophage T7 RNAP transcription initiation and termination. Journal of Molecular Biology, 1992, 224, 319-334.	4.2	91
16	The structure of CCTâ€“Hsc70NBD suggests a mechanism for Hsp70 delivery of substrates to the chaperonin. Nature Structural and Molecular Biology, 2008, 15, 858-864.	8.2	85
17	T7 RNA polymerase elongation complex structure and movement. Journal of Molecular Biology, 2000, 303, 347-358.	4.2	77
18	Transcribing of Escherichia coli genes with mutant T7 RNA polymerases: stability of lacZ mRNA inversely correlates with polymerase speed.. Proceedings of the National Academy of Sciences of the United States of America, 1995, 92, 12250-12254.	7.1	69

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19	Clathrin-coat disassembly illuminates the mechanisms of Hsp70 force generation. Nature Structural and Molecular Biology, 2016, 23, 821-829.	8.2	67
20	The use of glycerol in crystallization of T7 RNA polymerase: Implications for the use of cosolvents in crystallizing flexible proteins. Methods, 1990, 1, 50-56.	3.8	64
21	Isolation and characterization of mutant bacteriophage T7 RNA polymerases. Journal of Molecular Biology, 1992, 224, 307-318.	4.2	64
22	T7 RNA Polymerase. Progress in Molecular Biology and Translational Science, 2003, 73, 1-41.	1.9	61
23	Expression and purification of E. coli BirA biotin ligase for in vitro biotinylation. Protein Expression and Purification, 2012, 82, 162-167.	1.3	59
24	Structureâ˘Function Analysis of the Auxilin J-Domain Reveals an Extended Hsc70 Interaction Interfaceâ€‚â€¡. Biochemistry, 2003, 42, 5748-5753.	2.5	58
25	Characterization of structural features important for T7 RNAP elongation complex stability reveals competing complex conformations and a role for the non-template strand in RNA displacement. Journal of Molecular Biology, 1999, 290, 411-431.	4.2	56
26	Determinants of Ribose Specificity in RNA Polymerization:â€‰ Effects of Mn2+ and Deoxynucleoside Monophosphate Incorporation into Transcripts. Biochemistry, 1997, 36, 13718-13728.	2.5	54
27	Characterization of halted T7 RNA polymerase elongation complexes reveals multiple factors that contribute to stability 1 1Edited by M. Gottesman. Journal of Molecular Biology, 2000, 302, 1049-1062.	4.2	54
28	Translocation by T7 RNA Polymerase: A Sensitively Poised Brownian Ratchet. Journal of Molecular Biology, 2006, 358, 241-254.	4.2	53
29	Role of open complex instability in kinetic promoter selection by bacteriophage T7 RNA polymerase 1 1Edited by M. Gottesman. Journal of Molecular Biology, 1997, 273, 958-977.	4.2	51
30	T7 promoter release mediated by DNA scrunching. EMBO Journal, 2001, 20, 6826-6835.	7.8	51
31	The role of molecular chaperones in clathrin mediated vesicular trafficking. Frontiers in Molecular Biosciences, 2015, 2, 26.	3.5	49
32	Internally ratiometric fluorescent sensors for evaluation of intracellular GTP levels and distribution. Nature Methods, 2017, 14, 1003-1009.	19.0	47
33	NTP concentration effects on initial transcription by T7 RNAP indicate that translocation occurs through passive sliding and reveal that divergent promoters have distinct NTP concentration requirements for productive initiation 1 1Edited by R. Ebright. Journal of Molecular Biology, 1998, 281, 777-792.	4.2	46
34	Structural Transitions Mediating Transcription Initiation by T7 RNA Polymerase. Cell, 2002, 110, 81-91.	28.9	46
35	Dynamic Interactions between Clathrin and Locally Structured Elements in a Disordered Protein Mediate Clathrin Lattice Assembly. Journal of Molecular Biology, 2010, 404, 274-290.	4.2	46
36	Structural and mechanistic relationships between nucleic acid polymerases. Trends in Biochemical Sciences, 1996, 21, 186-190.	7.5	46

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37	Isolation and characterization of Z-DNA binding proteins from wheat germ. Biochemistry, 1985, 24, 5070-5076.	2.5	44
38	ATP-Induced Conformational Changes in Hsp70: Molecular Dynamics and Experimental Validation of an in Silico Predicted Conformation. Biochemistry, 2009, 48, 11470-11477.	2.5	43
39	Keep the Traffic Moving: Mechanism of the Hsp70 Motor. Traffic, 2006, 7, 1596-1603.	2.7	42
40	The Thumbs's Knuckle. Journal of Molecular Biology, 1994, 244, 6-12.	4.2	40
41	Mechanisms by which T7 lysozyme specifically regulates T7 RNA polymerase during different phases of transcription 1 1Edited by R. Ebright. Journal of Molecular Biology, 1999, 293, 457-475.	4.2	39
42	Roles of Histidine 784 and Tyrosine 639 in Ribose Discrimination by T7 RNA Polymeraseâ€. Biochemistry, 2000, 39, 919-923.	2.5	39
43	A Promoter Recognition Mechanism Common to Yeast Mitochondrial and Phage T7 RNA Polymerases. Journal of Biological Chemistry, 2009, 284, 13641-13647.	3.4	37
44	The T7 RNA Polymerase Intercalating Hairpin Is Important for Promoter Opening during Initiation but Not for RNA Displacement or Transcription Bubble Stability during Elongation. Biochemistry, 2001, 40, 3882-3890.	2.5	35
45	The low processivity of T7 RNA polymerase over the initially transcribed sequence can limit productive initiation in vivo. Journal of Molecular Biology, 1997, 269, 41-51.	4.2	30
46	On the mechanism of inhibition of phage T7 RNA polymerase by lac repressor 1 1Edited by R. Ebright. Journal of Molecular Biology, 1998, 276, 861-875.	4.2	28
47	Major Conformational Changes During T7RNAP Transcription Initiation Coincide with, and are Required for, Promoter Release. Journal of Molecular Biology, 2005, 353, 256-270.	4.2	28
48	Incorporation of isotopic, fluorescent, and heavy-atom-modified nucleotides into RNAs by position-selective labeling of RNA. Nature Protocols, 2018, 13, 987-1005.	12.0	27
49	Single crystals of bacteriophage T7 RNA polymerase. Proteins: Structure, Function and Bioinformatics, 1989, 5, 266-270.	2.6	25
50	Structural mechanisms of chaperone mediated protein disaggregation. Frontiers in Molecular Biosciences, 2014, 1, 12.	3.5	24
51	Z-DNA-binding proteins in Escherichia coli purification, generation of monoclonal antibodies and gene isolation. Journal of Molecular Biology, 1988, 203, 511-516.	4.2	23
52	Preparation of crystals of T7 RNA polymerase suitable for high-resolution X-ray structure analysis. Journal of Crystal Growth, 1991, 110, 237-246.	1.5	23
53	Specificity in transcriptional regulation in the absence of specific DNA binding sites: the case of T7 lysozyme 1 1Edited by R. Ebright. Journal of Molecular Biology, 1998, 281, 793-802.	4.2	23
54	Scanning Mutagenesis Reveals Roles for Helix N of the Bacteriophage T7 RNA Polymerase Thumb Subdomain in Transcription Complex Stability, Pausing, and Termination. Journal of Biological Chemistry, 2001, 276, 10306-10313.	3.4	23

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55	Hsc70 Ameliorates the Vesicle Recycling Defects Caused by Excess Î±-Synuclein at Synapses. ENeuro, 2020, 7, ENEURO.0448-19.2020.	1.9	23
56	[4] Use of T7 RNA polymerase and its mutants for incorporation of nucleoside analogs into RNA. Methods in Enzymology, 2000, 317, 65-74.	1.0	22
57	Discontinuous movement and conformational change during pausing and termination by T7 RNA polymerase. EMBO Journal, 2003, 22, 6483-6493.	7.8	22
58	Applications of PLOR in labeling large RNAs at specific sites. Methods, 2016, 103, 4-10.	3.8	21
59	Mapping and characterization of an X-linked processed gene related to MYCL1. Genomics, 1989, 4, 367-375.	2.9	20
60	Nuclear Magnetic Resonance Structural Mapping Reveals Promiscuous Interactions between Clathrin-Box Motif Sequences and the N-Terminal Domain of the Clathrin Heavy Chain. Biochemistry, 2015, 54, 2571-2580.	2.5	19
61	The Physics of Entropic Pulling: A Novel Model for the Hsp70 Motor Mechanism. International Journal of Molecular Sciences, 2019, 20, 2334.	4.1	19
62	Role of T7 RNA Polymerase His784 in Start Site Selection and Initial Transcriptionâ€. Biochemistry, 2002, 41, 5144-5149.	2.5	18
63	Molecular dynamics studies of the energetics of translocation in model T7 RNA polymerase elongation complexes. Proteins: Structure, Function and Bioinformatics, 2008, 73, 1021-1036.	2.6	18
64	A Role for an Hsp70 Nucleotide Exchange Factor in the Regulation of Synaptic Vesicle Endocytosis. Journal of Neuroscience, 2013, 33, 8009-8021.	3.6	18
65	Two new monoclonal antibodies provide immunohistochemical evidence for the unique biochemical similarity of the mouse globus pallidus, entopeduncular nucleus and substantia nigra pars reticulata. Neuroscience, 1990, 34, 403-410.	2.3	17
66	Crystallization of a functionally intact Hsc70 chaperone. Acta Crystallographica Section F: Structural Biology Communications, 2006, 62, 39-43.	0.7	17
67	Novel system for in vivo biotinylation and its application to crab antimicrobial protein scygonadin. Biotechnology Letters, 2012, 34, 1629-1635.	2.2	17
68	Specific labeling: An effective tool to explore the RNA world. BioEssays, 2016, 38, 192-200.	2.5	17
69	Regulation of local GTP availability controls RAC1 activity and cell invasion. Nature Communications, 2021, 12, 6091.	12.8	17
70	Characterization of the effects of Escherichia coli replication terminator protein (Tus) on transcription reveals dynamic nature of the Tus block to transcription complex progression. Nucleic Acids Research, 1999, 27, 2814-2824.	14.5	15
71	Machinations of a Maxwellian Demon. Cell, 2005, 120, 155-156.	28.9	15
72	Evaluation of competing J domain:Hsp70 complex models in light of existing mutational and NMR data. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E734; author reply E735.	7.1	13

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73	Multiple Roles for the T7 Promoter Nontemplate Strand during Transcription Initiation and Polymerase Release. Journal of Biological Chemistry, 2005, 280, 3474-3482.	3.4	12
74	Tie Me Up, Tie Me Down: Inhibiting RNA Polymerase. Cell, 2008, 135, 205-207.	28.9	12
75	Use of site-specifically tethered chemical nucleases to study macromolecular reactions. Biological Procedures Online, 2003, 5, 78-89.	2.9	11
76	Weakening of the T7 Promoter-Polymerase Interaction Facilitates Promoter Release. Journal of Biological Chemistry, 2005, 280, 14956-14961.	3.4	10
77	The thumb subdomain of yeast mitochondrial RNA polymerase is involved in processivity, transcript fidelity and mitochondrial transcription factor binding. RNA Biology, 2015, 12, 514-524.	3.1	10
78	[8] Using cosolvents to stabilize protein conformation for crystallization. Methods in Enzymology, 1997, 276, 131-143.	1.0	9
79	Functional Architecture of T7 RNA Polymerase Transcription Complexes. Journal of Molecular Biology, 2007, 371, 490-500.	4.2	9
80	Conservation of Promoter Melting Mechanisms in Divergent Regions of the Single-Subunit RNA Polymerases. Biochemistry, 2012, 51, 3901-3910.	2.5	8
81	A Dancer Caught Midstep: The Structure of ATP-Bound Hsp70. Molecular Cell, 2012, 48, 821-823.	9.7	7
82	Yeast mitochondrial RNAP conformational changes are regulated by interactions with the mitochondrial transcription factor. Nucleic Acids Research, 2014, 42, 11246-11260.	14.5	7
83	A new level of regulation in transcription elongation?. Trends in Biochemical Sciences, 2001, 26, 695-697.	7.5	5
84	Mechanism of T7 RNAP Pausing and Termination at the T7 Concatemer Junction: A Local Change in Transcription Bubble Structure Drives a Large Change in Transcription Complex Architecture. Journal of Molecular Biology, 2008, 376, 541-553.	4.2	5
85	On Models and Methods for Studying Polymerase Translocation. Methods in Enzymology, 2003, 371, 3-13.	1.0	4
86	Single crystals of a chimeric T7/T3 RNA polymerase with T3 promoter specificity. Journal of Crystal Growth, 1992, 122, 366-374.	1.5	3
87	Chaperone proteins as ameliorators of Î±-synuclein-induced synaptic pathologies: insights into Parkinsonâ€™s disease. Neural Regeneration Research, 2021, 16, 1198.	3.0	2
88	Crystal structure and mutational analysis of a functionally intact bovine hsc70. FASEB Journal, 2006, 20, A962.	0.5	1
89	Group I metal ions of increasing atomic weight suppress the growth of crystalline aggregates and enhance the growth of large, single crystals of T7 RNA polymerase. Journal of Crystal Growth, 1996, 167, 734-737.	1.5	0
90	Comment on Frank Gannon's <i>EMBO reports</i> editorial â€œAddress biasâ€. EMBO Reports, 2007, 8, 887-887.	4.5	0

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91	Comment on â€œXeno's paradoxâ€. EMBO Reports, 2009, 10, 800-800.	4.5	0
92	Transcription	T7 RNA Polymerase. , 2021, , 352-357.		0
93	T7 RNA Polymerase. , 2004, , 147-151.		0