Sergei M Mirkin

List of Publications by Year
in descending order

101 papers	8,833 citations	44069 48 h-index	43889 91 g-index
111 all docs	111 docs citations	111 times ranked	6359 citing authors

#	Article	IF	Citations
1	Expandable DNA repeats and human disease. Nature, 2007, 447, 932-940.	27.8	834
2	Triplex DNA Structures. Annual Review of Biochemistry, 1995, 64, 65-95.	11.1	755
3	Replication Fork Stalling at Natural Impediments. Microbiology and Molecular Biology Reviews, 2007, 71, 13-35.	6.6	433
4	DNA H form requires a homopurineâ€“homopyrimidine mirror repeat. Nature, 1987, 330, 495-497.	27.8	420
5	Human mutation rate associated with DNA replication timing. Nature Genetics, 2009, 41, 393-395.	21.4	371
6	Trinucleotide repeats affect DNA replication in vivo. Nature Genetics, 1997, 17, 298-304.	21.4	315
7	H-DNA and Related Structures. Annual Review of Biophysics and Biomolecular Structure, 1994, 23, 541-576.	18.3	253
8	Replication stalling at unstable inverted repeats: Interplay between DNA hairpins and fork stabilizing proteins. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 9936-9941.	7.1	235
9	Structures of Homopurine-homopyrimidine Tract in Superhelical DNA. Journal of Biomolecular Structure and Dynamics, 1986, 3, 667-669.	3.5	213
10	DNA structures, repeat expansions and human hereditary disorders. Current Opinion in Structural Biology, 2006, 16, 351-358.	5.7	211
11	Replication Stalling at Friedreich's Ataxia (GAA)<i>_n</i> Repeats In Vivo. Molecular and Cellular Biology, 2004, 24, 2286-2295.	2.3	193
12	Chemical probing of homopurine-homopyrimidine mirror repeats in supercoiled DNA. Nature, 1988, 333, 475-476.	27.8	186
13	On the wrong DNA track: Molecular mechanisms of repeat-mediated genome instability. Journal of Biological Chemistry, 2020, 295, 4134-4170.	3.4	178
14	A stable complex between homopyrimidine oligomers and the homologous regions of duplex DNAs. Nucleic Acids Research, 1988, 16, 2165-2187.	14.5	155
15	Mechanisms of Transcription-Replication Collisions in Bacteria. Molecular and Cellular Biology, 2005, 25, 888-895.	2.3	154
16	Replication and Expansion of Trinucleotide Repeats in Yeast. Molecular and Cellular Biology, 2003, 23, 1349-1357.	2.3	152
17	A pH-dependent Structural Transition in the Homopurine-homopyrimidine Tract in Superhelical DNA. Journal of Biomolecular Structure and Dynamics, 1985, 3, 327-338.	3.5	144
18	Mechanisms and implications of transcription blockage by guanine-rich DNA sequences. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 12816-12821.	7.1	136

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19	Large-Scale Expansions of Friedreich's Ataxia GAA Repeats in Yeast. Molecular Cell, 2009, 35, 82-92.	9.7	126
20	Reduced local mutation density in regulatory DNA of cancer genomes is linked to DNA repair. Nature Biotechnology, 2014, 32, 71-75.	17.5	120
21	Replisome stalling and stabilization at CGG repeats, which are responsible for chromosomal fragility. Nature Structural and Molecular Biology, 2009, 16, 226-228.	8.2	118
22	Characteristic enrichment of DNA repeats in differentâ€‰genomes. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 5237-5242.	7.1	117
23	Transcriptionally driven cruciform formationin vivo. Nucleic Acids Research, 1992, 20, 5991-5997.	14.5	108
24	Discovery of alternative DNA structures: a heroic decade (1979-1989). Frontiers in Bioscience - Landmark, 2008, 13, 1064.	3.0	107
25	Chromosome fragility at GAA tracts in yeast depends on repeat orientation and requires mismatch repair. EMBO Journal, 2008, 27, 2896-2906.	7.8	98
26	DNA Sequences That Interfere with Transcription: Implications for Genome Function and Stability. Chemical Reviews, 2013, 113, 8620-8637.	47.7	96
27	The balancing act of DNA repeat expansions. Current Opinion in Genetics and Development, 2013, 23, 280-288.	3.3	95
28	Intramolecular DNA triplexes: unusual sequence requirements and influence on DNA polymerization.. Proceedings of the National Academy of Sciences of the United States of America, 1992, 89, 11406-11410.	7.1	92
29	Large-scale effects of transcriptional DNA supercoiling in Vivo 1 1Edited by I. Tinoco. Journal of Molecular Biology, 1999, 292, 1149-1160.	4.2	83
30	Phosphate steering by Flap Endonuclease 1 promotes 5â€²-flap specificity and incision to prevent genome instability. Nature Communications, 2017, 8, 15855.	12.8	81
31	Formation of intramolecular triplex in homopurine-homopyrimidine mirror repeats with point substitutions. Nucleic Acids Research, 1990, 18, 6621-6624.	14.5	79
32	Transcription through a simple DNA repeat blocks replication elongation. EMBO Journal, 1998, 17, 5095-5102.	7.8	78
33	Overcoming natural replication barriers: differential helicase requirements. Nucleic Acids Research, 2012, 40, 1091-1105.	14.5	76
34	Formation of (dA-dT)n cruciforms in Escherichia coli cells under different environmental conditions. Journal of Bacteriology, 1991, 173, 2658-2664.	2.2	72
35	A Structural Transition in d(AT)_{<i>n</i>}Â·d(AT)_{<i>n</i>}Inserts within Superhelical DNA. Journal of Biomolecular Structure and Dynamics, 1985, 2, 1221-1234.	3.5	70
36	The role of break-induced replication in large-scale expansions of (CAG)n/(CTG)n repeats. Nature Structural and Molecular Biology, 2017, 24, 55-60.	8.2	70

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37	At the Beginning of the End and in the Middle of the Beginning: Structure and Maintenance of Telomeric DNA Repeats and Interstitial Telomeric Sequences. Genes, 2019, 10, 118.	2.4	68
38	An unusual DMA structure detected in a telomeric sequence under superhelical stress and at low pH. Nature, 1989, 339, 634-637.	27.8	66
39	Genome rearrangements caused by interstitial telomeric sequences in yeast. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 19866-19871.	7.1	66
40	Mechanisms of triplex-caused polymerization arrest. Nucleic Acids Research, 1997, 25, 1339-1346.	14.5	63
41	Transcription regulatory elements are punctuation marks for DNA replication. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 7276-7281.	7.1	62
42	RNAâ€"DNA hybrids promote the expansion of Friedreich's ataxiaÂ(GAA)n repeats via break-induced replication. Nucleic Acids Research, 2018, 46, 3487-3497.	14.5	62
43	Role of DNA Polymerases in Repeat-Mediated Genome Instability. Cell Reports, 2012, 2, 1088-1095.	6.4	61
44	H-DNA and Z-DNA in the mouse c-Ki-raspromoter. Nucleic Acids Research, 1991, 19, 6527-6532.	14.5	60
45	Genome-wide Screen Identifies Pathways that Govern GAA/TTC Repeat Fragility and Expansions in Dividing and Nondividing Yeast Cells. Molecular Cell, 2012, 48, 254-265.	9.7	58
46	Transcription blockage by homopurine DNA sequences: role of sequence composition and single-strand breaks. Nucleic Acids Research, 2013, 41, 1817-1828.	14.5	57
47	Effects of Friedreich's ataxia (GAA)n{middle dot}(TTC)n repeats on RNA synthesis and stability. Nucleic Acids Research, 2007, 35, 1075-1084.	14.5	49
48	Chemical probing of the homopurineÂ·homopyrimidine tract in supercoiled DNA at single-nucleotide resolution. FEBS Letters, 1988, 234, 295-299.	2.8	48
49	Expansions, contractions, and fragility of the spinocerebellar ataxia type 10 pentanucleotide repeat in yeast. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 2843-2848.	7.1	47
50	Guidelines for DNA recombination and repair studies: Cellular assays of DNA repair pathways. Microbial Cell, 2019, 6, 1-64.	3.2	47
51	Trapping DNA polymerases using triplex-forming oligodeoxyribonucleotides. Gene, 1994, 149, 127-136.	2.2	46
52	Checkpoint responses to unusual structures formed by DNA repeats. Molecular Carcinogenesis, 2009, 48, 309-318.	2.7	45
53	Quantitative Analysis of the Rates for Repeat-Mediated Genome Instability in a Yeast Experimental System. Methods in Molecular Biology, 2018, 1672, 421-438.	0.9	44
54	Structure of (dG)nÂ· (dC)nUnder Superhelical Stress and Acid pH. Journal of Biomolecular Structure and Dynamics, 1987, 5, 275-282.	3.5	43

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55	Positioned to expand. Nature Genetics, 2002, 31, 5-6.	21.4	42
56	To Switch or Not to Switch: At the Origin of Repeat Expansion Disease. Molecular Cell, 2014, 53, 1-3.	9.7	38
57	Effects of Friedreich's ataxia GAA repeats on DNA replication in mammalian cells. Nucleic Acids Research, 2012, 40, 3964-3974.	14.5	37
58	Friedreich's Ataxia (GAA)nâ€¢(TTC)n Repeats Strongly Stimulate Mitotic Crossovers in Saccharomyces cerevisae. PLoS Genetics, 2011, 7, e1001270.	3.5	36
59	Nanopore sequencing of complex genomic rearrangements in yeast reveals mechanisms of repeat-mediated double-strand break repair. Genome Research, 2017, 27, 2072-2082.	5.5	36
60	Precarious maintenance of simple DNA repeats in eukaryotes. BioEssays, 2017, 39, 1700077.	2.5	33
61	Mechanisms of genetic instability caused by (CGG)n repeats in an experimental mammalian system. Nature Structural and Molecular Biology, 2018, 25, 669-676.	8.2	33
62	Expansion of the (CTG)n repeat in the 5'-UTR of a reporter gene impedes translation. Nucleic Acids Research, 2000, 28, 3943-3949.	14.5	30
63	The hidden side of unstable DNA repeats: Mutagenesis at a distance. DNA Repair, 2015, 32, 106-112.	2.8	30
64	Mrc1 and Tof1 prevent fragility and instability at long CAG repeats by their fork stabilizing function. Nucleic Acids Research, 2019, 47, 794-805.	14.5	29
65	Transcription blockage by stable H-DNA analogs in vitro. Nucleic Acids Research, 2015, 43, 6994-7004.	14.5	28
66	The Ionic Strength Dependence of the Cooperativity Factor for DNA Melting. Journal of Biomolecular Structure and Dynamics, 1987, 5, 119-126.	3.5	27
67	Energetics of the Bâ€“H transition in supercoiled DNA carrying d(CT)x.d(AG)xand d(C)n.d(G)ninserts. Nucleic Acids Research, 1989, 17, 9417-9423.	14.5	27
68	Large-scale contractions of Friedreichâ€™s ataxia GAA repeats in yeast occur during DNA replication due to their triplex-forming ability. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 1628-1637.	7.1	27
69	The Energetics of the B-Z Transition in DNA. Journal of Biomolecular Structure and Dynamics, 1987, 5, 79-88.	3.5	25
70	Cis- and Trans-Modifiers of Repeat Expansions: Blending Model Systems with Human Genetics. Trends in Genetics, 2018, 34, 448-465.	6.7	25
71	DNA Supercoiling and transcription in Escherichia coli: Influence of RNA polymerase mutations. Molecular Genetics and Genomics, 1979, 177, 169-175.	2.4	24
72	The Absence of Cruciform Structures from pA03 Plasmid DNA<i>In vivo</i>. Journal of Biomolecular Structure and Dynamics, 1984, 2, 291-301.	3.5	24

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73	Transcriptional activity of the homopurine-homopyrimidine repeat of the c-Ki-raspromoter is independent of its H-forming potential. Nucleic Acids Research, 1994, 22, 3271-3279.	14.5	23
74	DNA replication and transcription in a temperature-sensitive mutant of E. coli with a defective DNA gyrase B subunit. Molecular Genetics and Genomics, 1982, 188, 91-95.	2.4	21
75	Toward a unified theory for repeat expansions. Nature Structural and Molecular Biology, 2005, 12, 635-637.	8.2	21
76	Expansion of Interstitial Telomeric Sequences in Yeast. Cell Reports, 2015, 13, 1545-1551.	6.4	21
77	Genetic Control of Genomic Alterations Induced in Yeast by Interstitial Telomeric Sequences. Genetics, 2018, 209, 425-438.	2.9	21
78	Analysis of Triplet Repeat Replication by Two-Dimensional Gel Electrophoresis. , 2004, 277, 019-028.		20
79	Coupling Transcriptional State to Large-Scale Repeat Expansions in Yeast. Cell Reports, 2014, 9, 1594-1602.	6.4	17
80	A Defective mRNA Cleavage and Polyadenylation Complex Facilitates Expansions of Transcribed (GAA)n Repeats Associated with Friedreichâ€™s Ataxia. Cell Reports, 2017, 20, 2490-2500.	6.4	17
81	Expansion of Trinucleotide Repeats. Molecular Biology, 2001, 35, 168-182.	1.3	16
82	Schizosaccharomyces pombe Ddb1 Is functionally Linked to the Replication Checkpoint Pathway. Journal of Biological Chemistry, 2003, 278, 37006-37014.	3.4	15
83	Replication-independent instability of Friedreichâ€™s ataxia GAA repeats during chronological aging. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	15
84	Native supercoiling of DNA: The effects of DNA gyrase and Ï‰ protein in E. coli. Molecular Genetics and Genomics, 1984, 196, 508-512.	2.4	12
85	Driving past four-stranded snags. Nature, 2013, 497, 449-450.	27.8	12
86	A new trick for an old dog: TraY binding to a homopurine-homopyrimidine run attenuates DNA replication. Journal of Molecular Biology, 2001, 313, 271-282.	4.2	9
87	Structure and Biology of H DNA. Perspectives in Antisense Science, 1999, , 193-222.	0.2	4
88	Rad9-mediated checkpoint activation is responsible for elevated expansions of GAA repeats in CST-deficient yeast. Genetics, 2021, 219, .	2.9	4
89	Getting to the Core of Repeat Expansions by Cell Reprogramming. Cell Stem Cell, 2010, 7, 545-546.	11.1	3
90	Partners in crime: Tbf1 and Vid22 promote expansions of long human telomeric repeats at an interstitial chromosome position in yeast. , 2022, 1, .		3

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91	Changed properties of the A subunit in DNA gyrase with a B subunit mutation. Molecular Genetics and Genomics, 1982, 186, 572-574.	2.4	2
92	A Tribute to Evgenii V. Ananiev, 1947â€"2008. PLoS Genetics, 2008, 4, e1000122.	3.5	2
93	Experimental System to Study Instability of (CGG)n Repeats in Cultured Mammalian Cells. Methods in Molecular Biology, 2020, 2056, 137-150.	0.9	2
94	138. Studies of molecular mechanisms regulating reelin gene expression. Biological Psychiatry, 2000, 47, S41-S42.	1.3	1
95	REPLICATION OF DNA PALINDROMES AND CHROMOSOMAL INSTABILITY.. Journal of Investigative Medicine, 2007, 55, S359.	1.6	1
96	Putting the Brakes on Huntington Disease in a Mouse Experimental Model. PLoS Genetics, 2015, 11, e1005409.	3.5	1
97	Replication of Expandable DNA Repeats. , 2006, , 637-644.		1
98	Thinking of R.B. Khesin. Molecular Biology, 2002, 36, 267-279.	1.3	0
99	A Renaissance Man: In Memoriam of Jon Widom (1955â€"2011). Journal of Biomolecular Structure and Dynamics, 2011, 29, 253-255.	3.5	0
100	Characteristics and possible mechanisms of formation of microinversions distinguishing human and chimpanzee genomes. Scientific Reports, 2022, 12, 591.	3.3	0
101	Fleeing Russian researchers seek Western support. Nature, 2022, 606, 463-463.	27.8	0