Anthony Maxwell

List of Publications by Year
in descending order

107 papers	8,281 citations	50273 46 h-index	49904 87 g-index
206 all docs	206 docs citations	206 times ranked	6356 citing authors

#	Article	IF	Citations
1	DNA Gyrase: Structure and Function. Critical Reviews in Biochemistry and Molecular Biology, 1991, 26, 335-375.	5.2	606
2	Crystal structure of an N-terminal fragment of the DNA gyrase B protein. Nature, 1991, 351, 624-629.	27.8	551
3	Crystal structure of the breakageâ€"reunion domain of DNA gyrase. Nature, 1997, 388, 903-906.	27.8	455
4	Exploiting bacterial DNA gyrase as a drug target: current state and perspectives. Applied Microbiology and Biotechnology, 2011, 92, 479-497.	3.6	447
5	DNA gyrase as a drug target. Trends in Microbiology, 1997, 5, 102-109.	7.7	348
6	The 43-kilodalton N-terminal fragment of the DNA gyrase B protein hydrolyzes ATP and binds coumarin drugs. Biochemistry, 1993, 32, 2717-2724.	2.5	329
7	A Fluoroquinolone Resistance Protein from <i>Mycobacterium tuberculosis</i> That Mimics DNA. Science, 2005, 308, 1480-1483.	12.6	264
8	The ATP-Binding Site of Type II Topoisomerases as a Target for Antibacterial Drugs. Current Topics in Medicinal Chemistry, 2003, 3, 283-303.	2.1	257
9	The interaction between coumarin drugs and DNA gyrase. Molecular Microbiology, 1993, 9, 681-686.	2.5	249
10	The Interaction of Coumarin Antibiotics with Fragments of the DNA Gyrase B Proteinâ€. Biochemistry, 1996, 35, 5083-5092.	2.5	164
11	DNA Topoisomerases. EcoSal Plus, 2015, 6, .	5.4	163
12	Quinolones: Mechanism, Lethality and Their Contributions to Antibiotic Resistance. Molecules, 2020, 25, 5662.	3.8	150
13	Interaction between DNA Gyrase and Quinolones: Effects of Alanine Mutations at GyrA Subunit Residues Ser 83 and Asp 87. Antimicrobial Agents and Chemotherapy, 2001, 45, 1994-2000.	3.2	140
14	Arabidopsis thaliana DNA gyrase is targeted to chloroplasts and mitochondria. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 7821-7826.	7.1	140
15	The Complex of DNA Gyrase and Quinolone Drugs with DNA Forms a Barrier to Transcription by RNA Polymerase. Journal of Molecular Biology, 1994, 242, 351-363.	4.2	133
16	gyrB mutations which confer coumarin resistance also affect DNA supercoiling and ATP hydrolysis by Escherichia coli DNA gyrase. Molecular Microbiology, 1992, 6, 1617-1624.	2.5	120
17	Galleria mellonella (greater wax moth) larvae as a model for antibiotic susceptibility testing and acute toxicity trials. BMC Research Notes, 2017, 10, 428.	1.4	107
18	Simocyclinone D8, an Inhibitor of DNA Gyrase with a Novel Mode of Action. Antimicrobial Agents and Chemotherapy, 2005, 49, 1093-1100.	3.2	106

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19	RHL1 is an essential component of the plant DNA topoisomerase VI complex and is required for ploidy-dependent cell growth. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 18736-18741.	7.1	106
20	The DNA Gyrase-Quinolone Complex. Journal of Biological Chemistry, 1998, 273, 22615-22626.	3.4	105
21	BIN4, a Novel Component of the Plant DNA Topoisomerase VI Complex, Is Required for Endoreduplication in <i>Arabidopsis</i>. Plant Cell, 2007, 19, 3655-3668.	6.6	103
22	Multiple modes of Escherichia coli DNA gyrase activity revealed by force and torque. Nature Structural and Molecular Biology, 2007, 14, 264-271.	8.2	101
23	Probing the Binding of Coumarins and Cyclothialidines to DNA Gyraseâ€. Biochemistry, 1999, 38, 1967-1976.	2.5	94
24	Inhibition of DNA gyrase and DNA topoisomerase IV of Staphylococcus aureus and Escherichia coli by aminocoumarin antibiotics. Journal of Antimicrobial Chemotherapy, 2011, 66, 2061-2069.	3.0	91
25	Evidence for a conformational change in the DNA gyraseâ€“DNA complex from hydroxyl radical footprinting. Nucleic Acids Research, 1994, 22, 1567-1575.	14.5	89
26	DNA Cleavage Is Not Required for the Binding of Quinolone Drugs to the DNA Gyraseâˆ’DNA Complexâ€. Biochemistry, 1996, 35, 7387-7393.	2.5	88
27	High-throughput assays for DNA gyrase and other topoisomerases. Nucleic Acids Research, 2006, 34, e104-e104.	14.5	87
28	DNA topoisomerases: Advances in understanding of cellular roles and multiâ€protein complexes via structureâ€function analysis. BioEssays, 2021, 43, e2000286.	2.5	86
29	The Role of GyrB in the DNA Cleavage-religation Reaction of DNA Gyrase: A Proposed Two Metal-ion Mechanism. Journal of Molecular Biology, 2002, 318, 361-371.	4.2	85
30	Dietary and Microbial Oxazoles Induce Intestinal Inflammation by Modulating Aryl Hydrocarbon Receptor Responses. Cell, 2018, 173, 1123-1134.e11.	28.9	84
31	A Crystal Structure of the Bifunctional Antibiotic Simocyclinone D8, Bound to DNA Gyrase. Science, 2009, 326, 1415-1418.	12.6	81
32	DNA topoisomerase I and DNA gyrase as targets for TB therapy. Drug Discovery Today, 2017, 22, 510-518.	6.4	80
33	Probing the Role of the ATP-Operated Clamp in the Strand-Passage Reaction of DNA Gyrase. Nucleic Acids Research, 1996, 24, 4868-4873.	14.5	79
34	Energy Coupling in Type II Topoisomerases: Why Do They Hydrolyze ATP?. Biochemistry, 2007, 46, 7929-7941.	2.5	79
35	DNA Topoisomerase Inhibitors: Trapping a DNA-Cleaving Machine in Motion. Journal of Molecular Biology, 2019, 431, 3427-3449.	4.2	79
36	The Interaction of Drugs with DNA Gyrase: A Model for the Molecular Basis of Quinolone Action. Nucleosides, Nucleotides and Nucleic Acids, 2000, 19, 1249-1264.	1.1	77

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37	The 24 kDa N-terminal sub-domain of the DNA gyrase B protein binds coumarin drugs. Molecular Microbiology, 1994, 12, 365-373.	2.5	75
38	Base-pair resolution analysis of the effect of supercoiling on DNA flexibility and major groove recognition by triplex-forming oligonucleotides. Nature Communications, 2021, 12, 1053.	12.8	73
39	Single-molecule imaging of DNA gyrase activity in living<i>Escherichia coli</i>. Nucleic Acids Research, 2019, 47, 210-220.	14.5	72
40	The Complex of DNA Gyrase and Quinolone Drugs on DNA Forms a Barrier to the T7 DNA Polymerase Replication Complex. Journal of Molecular Biology, 2000, 304, 779-791.	4.2	71
41	Nucleotide Binding to DNA Gyrase Causes Loss of DNA Wrap. Journal of Molecular Biology, 2004, 337, 597-610.	4.2	70
42	Probing the Two-Gate Mechanism of DNA Gyrase Using Cysteine Cross-Linkingâ€. Biochemistry, 1999, 38, 13502-13511.	2.5	66
43	Locking the ATP-operated clamp of DNA gyrase: probing the mechanism of strand passage. Journal of Molecular Biology, 2001, 306, 969-984.	4.2	62
44	The ancestral role of ATP hydrolysis in type II topoisomerases: prevention of DNA double-strand breaks. Nucleic Acids Research, 2011, 39, 6327-6339.	14.5	62
45	The Naphthoquinone Diospyrin Is an Inhibitor of DNA Gyrase with a Novel Mechanism of Action. Journal of Biological Chemistry, 2013, 288, 5149-5156.	3.4	62
46	DNA Gyrase Is the Target for the Quinolone Drug Ciprofloxacin in Arabidopsis thaliana. Journal of Biological Chemistry, 2016, 291, 3136-3144.	3.4	58
47	Thiophene antibacterials that allosterically stabilize DNA-cleavage complexes with DNA gyrase. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E4492-E4500.	7.1	51
48	Architecture of Microcin B17 Synthetase: An Octameric Protein Complex Converting a Ribosomally Synthesized Peptide into a DNA Gyrase Poison. Molecular Cell, 2019, 73, 749-762.e5.	9.7	48
49	The Microbial Toxin Microcin B17: Prospects for the Development of New Antibacterial Agents. Journal of Molecular Biology, 2019, 431, 3400-3426.	4.2	46
50	Identification of a Residue Involved in Transition-State Stabilization in the ATPase Reaction of DNA Gyraseâ€. Biochemistry, 1998, 37, 9658-9667.	2.5	45
51	Coupling of the biosynthesis and export of the DNA gyrase inhibitor simocyclinone in <i>Streptomyces antibioticus</i>. Molecular Microbiology, 2009, 72, 1462-1474.	2.5	44
52	Overexpression and Purification of Bacterial DNA Gyrase. , 1999, 94, 135-144.		43
53	How Do Type II Topoisomerases Use ATP Hydrolysis to Simplify DNA Topology beyond Equilibrium? Investigating the Relaxation Reaction of Nonsupercoiling Type II Topoisomerases. Journal of Molecular Biology, 2009, 385, 1397-1408.	4.2	43
54	Locking the DNA Gate of DNA Gyrase:Â Investigating the Effects on DNA Cleavage and ATP Hydrolysisâ€. Biochemistry, 1999, 38, 14157-14164.	2.5	41

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55	Structural and Biochemical Analysis of the Pentapeptide Repeat Protein <i>Efs</i> Qnr, a Potent DNA Gyrase Inhibitor. Antimicrobial Agents and Chemotherapy, 2011, 55, 110-117.	3.2	41
56	A New Crystal Structure of the Bifunctional Antibiotic Simocyclinone D8 Bound to DNA Gyrase Gives Fresh Insight into the Mechanism of Inhibition. Journal of Molecular Biology, 2014, 426, 2023-2033.	4.2	39
57	New insights into the binding mode of pyridine-3-carboxamide inhibitors of E. coli DNA gyrase. Bioorganic and Medicinal Chemistry, 2019, 27, 3546-3550.	3.0	39
58	A strand-passage conformation of DNA gyrase is required to allow the bacterial toxin, CcdB, to access its binding site. Nucleic Acids Research, 2006, 34, 4667-4676.	14.5	36
59	Modular Structure of the Full-Length DNA Gyrase B Subunit Revealed by Small-Angle X-Ray Scattering. Structure, 2007, 15, 329-339.	3.3	35
60	Mycobacterium fluoroquinolone resistance protein B, a novel small GTPase, is involved in the regulation of DNA gyrase and drug resistance. Nucleic Acids Research, 2013, 41, 2370-2381.	14.5	34
61	The Origins of Specificity in the Microcin-Processing Protease TldD/E. Structure, 2017, 25, 1549-1561.e5.	3.3	34
62	Structures of the TetR-like Simocyclinone Efflux Pump Repressor, SimR, and the Mechanism of Ligand-Mediated Derepression. Journal of Molecular Biology, 2011, 408, 40-56.	4.2	32
63	Potent DNA gyrase inhibitors bind asymmetrically to their target using symmetrical bifurcated halogen bonds. Nature Communications, 2021, 12, 150.	12.8	30
64	Lead selection and characterization of antitubercular compounds using the Nested Chemical Library. Tuberculosis, 2015, 95, S200-S206.	1.9	26
65	The ATP-operated Clamp of Human DNA Topoisomerase IIÎ±: Hyperstimulation of ATPase by â€œPiggy-backâ€• Binding. Journal of Molecular Biology, 2002, 320, 171-188.	4.2	25
66	Predictive modeling targets thymidylate synthase ThyX in Mycobacterium tuberculosis. Scientific Reports, 2016, 6, 27792.	3.3	25
67	Quinolone-resistant gyrase mutants demonstrate decreased susceptibility to triclosan. Journal of Antimicrobial Chemotherapy, 2017, 72, 2755-2763.	3.0	25
68	Use of divalent metal ions in the DNA cleavage reaction of topoisomerase IV. Nucleic Acids Research, 2011, 39, 4808-4817.	14.5	24
69	Antibiotic-resistant bacteria in the guts of insects feeding on plants: prospects for discovering plant-derived antibiotics. BMC Microbiology, 2017, 17, 223.	3.3	24
70	A new class of antibacterials, the imidazopyrazinones, reveal structural transitions involved in DNA gyrase poisoning and mechanisms of resistance. Nucleic Acids Research, 2018, 46, 4114-4128.	14.5	23
71	The role of Ca 2+ in the activity of Mycobacterium tuberculosis DNA gyrase. Nucleic Acids Research, 2012, 40, 9774-9787.	14.5	22
72	Developing ciprofloxacin analogues against plant DNA gyrase: a novel herbicide mode of action. Chemical Communications, 2018, 54, 1869-1872.	4.1	20

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73	Chimeric VEGFRs are activated by a small-molecule dimerizer and mediate downstream signalling cascades in endothelial cells. Oncogene, 2000, 19, 5398-5405.	5.9	19
74	DNA G-segment bending is not the sole determinant of topology simplification by type II DNA topoisomerases. Scientific Reports, 2014, 4, 6158.	3.3	19
75	Use of a Rapid Throughput In Vivo Screen To Investigate Inhibitors of Eukaryotic Topoisomerase II Enzymes. Antimicrobial Agents and Chemotherapy, 1998, 42, 889-894.	3.2	18
76	Negative supercoiling of DNA by gyrase is inhibited in <i>Salmonella enterica</i> serovar Typhimurium during adaptation to acid stress. Molecular Microbiology, 2018, 107, 734-746.	2.5	18
77	Discovery of a Novel DNA Gyrase-Targeting Antibiotic through the Chemical Perturbation of Streptomyces venezuelae Sporulation. Cell Chemical Biology, 2019, 26, 1274-1282.e4.	5.2	18
78	Exploring the Chemical Space of Benzothiazole-Based DNA Gyrase B Inhibitors. ACS Medicinal Chemistry Letters, 2020, 11, 2433-2440.	2.8	18
79	Application of a Novel Microtitre Plate-Based Assay for the Discovery of New Inhibitors of DNA Gyrase and DNA Topoisomerase VI. PLoS ONE, 2013, 8, e58010.	2.5	18
80	Oxytetracycline reduces the diversity of tetracycline-resistance genes in the Galleria mellonella gut microbiome. BMC Microbiology, 2018, 18, 228.	3.3	17
81	Exploiting Nucleotide Thiophosphates To Probe Mechanistic Aspects ofEscherichia coliDNA Gyraseâ€. Biochemistry, 1997, 36, 6059-6068.	2.5	16
82	Mass Spectrometry Reveals That the Antibiotic Simocyclinone D8 Binds to DNA Gyrase in a â€œBent-Overâ€• Conformation: Evidence of Positive Cooperativity in Binding. Biochemistry, 2011, 50, 3432-3440.	2.5	16
83	The role of monovalent cations in the ATPase reaction of DNA gyrase. Acta Crystallographica Section D: Biological Crystallography, 2015, 71, 996-1005.	2.5	16
84	For the record: Temperatureâ€sensitive suppressor mutations of the <i>Escherichia coli</i> DNA gyrase B protein. Protein Science, 2000, 9, 1035-1037.	7.6	15
85	Structural and mechanistic analysis of ATPase inhibitors targeting mycobacterial DNA gyrase. Journal of Antimicrobial Chemotherapy, 2020, 75, 2835-2842.	3.0	15
86	A natural product inspired fragment-based approach towards the development of novel anti-bacterial agents. MedChemComm, 2016, 7, 1387-1391.	3.4	14
87	Protein gates in DMA topoisomerase II. Nature Structural Biology, 1996, 3, 109-112.	9.7	13
88	The plasmidâ€borne quinolone resistance protein QnrB, a novel DnaAâ€binding protein, increases the bacterial mutation rate by triggering DNA replication stress. Molecular Microbiology, 2019, 111, 1529-1543.	2.5	13
89	Mapping DNA Topoisomerase Binding and Cleavage Genome Wide Using Next-Generation Sequencing Techniques. Genes, 2020, 11, 92.	2.4	13
90	Imidazopyrazinones (IPYs): Non-Quinolone Bacterial Topoisomerase Inhibitors Showing Partial Cross-Resistance with Quinolones. Journal of Medicinal Chemistry, 2018, 61, 3565-3581.	6.4	12

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91	The EU approved antimalarial pyronaridine shows antitubercular activity and synergy with rifampicin, targeting RNA polymerase. Tuberculosis, 2018, 112, 98-109.	1.9	12
92	The pentapeptide-repeat protein, MfpA, interacts with mycobacterial DNA gyrase as a DNA T-segment mimic. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	11
93	Interference between Triplex and Protein Binding to Distal Sites on Supercoiled DNA. Biophysical Journal, 2017, 112, 523-531.	0.5	10
94	Enterococcus innesii sp. nov., isolated from the wax moth Galleria mellonella. International Journal of Systematic and Evolutionary Microbiology, 2021, 71, .	1.7	9
95	A rapid high-resolution method for resolving DNA topoisomers. BMC Research Notes, 2018, 11, 37.	1.4	8
96	SimC7 Is a Novel NAD(P)H-Dependent Ketoreductase Essential for the Antibiotic Activity of the DNA Gyrase Inhibitor Simocyclinone. Journal of Molecular Biology, 2015, 427, 2192-2204.	4.2	7
97	Structural insights into simocyclinone as an antibiotic, effector ligand and substrate. FEMS Microbiology Reviews, 2018, 42, .	8.6	7
98	Topoisomerase VI is a chirally-selective, preferential DNA decatenase. ELife, 2022, 11, .	6.0	7
99	A novel decatenation assay for DNA topoisomerases using a singly-linked catenated substrate. BioTechniques, 2020, 69, 356-362.	1.8	5
100	The Molecular Basis of Antibiotic Action and Resistance. Journal of Molecular Biology, 2019, 431, 3367-3369.	4.2	4
101	Exploitation of a novel allosteric binding region in DNA gyrase and its implications for antibacterial drug discovery. Future Medicinal Chemistry, 2021, 13, 2125-2127.	2.3	4
102	Crystallization and preliminary X-ray analysis of a complex formed between the antibiotic simocyclinone D8 and the DNA breakageâ€“reunion domain of<i>Escherichia coli</i>DNA gyrase. Acta Crystallographica Section F: Structural Biology Communications, 2009, 65, 846-848.	0.7	3
103	Enzymes that keep DNA under control. EMBO Reports, 2001, 2, 271-276.	4.5	2
104	DNA in a twist? How topoisomerases solve topological problems in DNA. Biochemist, 2018, 40, 26-31.	0.5	2
105	Topology simplification: Important biological phenomenon or evolutionary relic?. Physics of Life Reviews, 2016, 18, 144-146.	2.8	1
106	Non-quinolone Topoisomerase Inhibitors. , 2018, , 593-618.		1
107	DNA gyrase as a drug target. Biochemical Society Transactions, 1999, 27, A3-A3.	3.4	0