David John Sherratt

List of Publications by Year
in descending order

118 papers	11,673 citations	36303 51 h-index	31849 101 g-index
133 all docs	133 docs citations	133 times ranked	6026 citing authors

#	Article	IF	Citations
1	Transient non-specific DNA binding dominates the target search of bacterial DNA-binding proteins. Molecular Cell, 2021, 81, 1499-1514.e6.	9.7	51
2	Nonrandom segregation of sister chromosomes by Escherichia coli MukBEF. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2022078118.	7.1	11
3	Competitive binding of MatP and topoisomerase IV to the MukB hinge domain. ELife, 2021, 10, .	6.0	8
4	Acyl carrier protein promotes MukBEF action in Escherichia coli chromosome organization-segregation. Nature Communications, 2021, 12, 6721.	12.8	12
5	Functional Analysis of the Acinetobacter baumannii XerC and XerD Site-Specific Recombinases: Potential Role in Dissemination of Resistance Genes. Antibiotics, 2020, 9, 405.	3.7	19
6	Organization of the Escherichia coli Chromosome by a MukBEF Axial Core. Molecular Cell, 2020, 78, 250-260.e5.	9.7	81
7	Catching an invader. Nature Reviews Microbiology, 2020, 18, 194-194.	28.6	0
8	SMC complexes organize the bacterial chromosome by lengthwise compaction. Current Genetics, 2020, 66, 895-899.	1.7	23
9	Dynamic architecture of the Escherichia coli structural maintenance of chromosomes (SMC) complex, MukBEF. Nucleic Acids Research, 2019, 47, 9696-9707.	14.5	20
10	Small Klebsiella pneumoniae Plasmids: Neglected Contributors to Antibiotic Resistance. Frontiers in Microbiology, 2019, 10, 2182.	3.5	23
11	The bacterial cell cycle, chromosome inheritance and cell growth. Nature Reviews Microbiology, 2019, 17, 467-478.	28.6	77
12	The journey of a molecular detective. Heredity, 2019, 123, 18-22.	2.6	0
13	Single-molecule imaging of DNA gyrase activity in living<i>Escherichia coli</i>. Nucleic Acids Research, 2019, 47, 210-220.	14.5	72
14	Competition between DivIVA and the nucleoid for ParA binding promotes segrosome separation and modulates mycobacterial cell elongation. Molecular Microbiology, 2019, 111, 204-220.	2.5	14
15	Self-organised segregation of bacterial chromosomal origins. ELife, 2019, 8, .	6.0	27
16	Direct observation of end resection by RecBCD during double-stranded DNA break repair in vivo. Nucleic Acids Research, 2018, 46, 1821-1833.	14.5	26
17	MukB ATPases are regulated independently by the N- and C-terminal domains of MukF kleisin. ELife, 2018, 7, .	6.0	50
18	Chromosome stitch-up?. Science, 2017, 355, 460-461.	12.6	1

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19	Single-Molecule Analysis of Bacterial DNA Repair and Mutagenesis. Annual Review of Biophysics, 2017, 46, 411-432.	10.0	29
20	Pathways of DNA unlinking: A story of stepwise simplification. Scientific Reports, 2017, 7, 12420.	3.3	23
21	Activation of Xer-recombination at dif: structural basis of the FtsKÎ³â€“XerD interaction. Scientific Reports, 2016, 6, 33357.	3.3	17
22	MatP regulates the coordinated action of topoisomerase IV and MukBEF in chromosome segregation. Nature Communications, 2016, 7, 10466.	12.8	114
23	CRISPR-mediated control of the bacterial initiation of replication. Nucleic Acids Research, 2016, 44, 3801-3810.	14.5	41
24	Single-molecule imaging of UvrA and UvrB recruitment to DNA lesions in living Escherichia coli. Nature Communications, 2016, 7, 12568.	12.8	88
25	Whole-Genome Comparative Analysis of Two Carbapenem-Resistant ST-258Klebsiella pneumoniaeStrains Isolated during a North-Eastern Ohio Outbreak: Differences within the High Heterogeneity Zones. Genome Biology and Evolution, 2016, 8, 2036-2043.	2.5	28
26	The progression of replication forks at natural replication barriers in live bacteria. Nucleic Acids Research, 2016, 44, 6262-6273.	14.5	12
27	Stochastic activation of a DNA damage response causes cell-to-cell mutation rate variation. Science, 2016, 351, 1094-1097.	12.6	125
28	Oscillation helps to get division right. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2803-2805.	7.1	5
29	The Localization and Action of Topoisomerase IV in Escherichia coli Chromosome Segregation Is Coordinated by the SMC Complex, MukBEF. Cell Reports, 2015, 13, 2587-2596.	6.4	100
30	Shaping the landscape of the<i>Escherichia coli</i>chromosome: replication-transcription encounters in cells with an ectopic replication origin. Nucleic Acids Research, 2015, 43, 7865-7877.	14.5	53
31	Assembly, translocation, and activation of XerCD-difrecombination by FtsK translocase analyzed in real-time by FRET and two-color tethered fluorophore motion. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5133-E5141.	7.1	14
32	Evidence for Divisome Localization Mechanisms Independent of the Min System and SlmA in Escherichia coli. PLoS Genetics, 2014, 10, e1004504.	3.5	106
33	Slow unloading leads to DNA-bound Î²2-sliding clamp accumulation in live Escherichia coli cells. Nature Communications, 2014, 5, 5820.	12.8	60
34	The SMC Complex MukBEF Recruits Topoisomerase IV to the Origin of Replication Region in Live Escherichia coli. MBio, 2014, 5, e01001-13.	4.1	66
35	MapZ marks the division sites and positions FtsZ rings in Streptococcus pneumoniae. Nature, 2014, 516, 259-262.	27.8	194
36	Single-Molecule Imaging of FtsK Translocation Reveals Mechanistic Features of Protein-Protein Collisions on DNA. Molecular Cell, 2014, 54, 832-843.	9.7	58

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37	The bacterial chromosome: architecture and action of bacterial SMC and SMC-like complexes. FEMS Microbiology Reviews, 2014, 38, 380-392.	8.6	128
38	RecA bundles mediate homology pairing between distant sisters during DNA break repair. Nature, 2014, 506, 249-253.	27.8	174
39	Tethered Fluorophore Motion: Studying Large DNA Conformational Changes by Single-fluorophore Imaging. Biophysical Journal, 2014, 107, 1205-1216.	0.5	19
40	Visualizing Protein-DNA Interactions in Live Bacterial Cells Using Photoactivated Single-molecule Tracking. Journal of Visualized Experiments, 2014, , .	0.3	32
41	MinC, MinD, and MinE Drive Counter-oscillation of Early-Cell-Division Proteins Prior to Escherichia coli Septum Formation. MBio, 2013, 4, e00856-13.	4.1	45
42	The N-Terminal Membrane-Spanning Domain of the Escherichia coli DNA Translocase FtsK Hexamerizes at Midcell. MBio, 2013, 4, e00800-13.	4.1	36
43	Conformational transitions during FtsK translocase activation of individual XerCD-dif recombination complexes. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17302-17307.	7.1	28
44	FtsK-dependent XerCD- <i>dif</i> recombination unlinks replication catenanes in a stepwise manner. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20906-20911.	7.1	58
45	Plasmid partition: sisters drifting apart. EMBO Journal, 2013, 32, 1208-1210.	7.8	8
46	Breaking symmetry in SMCs. Nature Structural and Molecular Biology, 2013, 20, 246-249.	8.2	5
47	Single-molecule DNA repair in live bacteria. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 8063-8068.	7.1	181
48	Single-molecule imaging of DNA curtains reveals mechanisms of KOPS sequence targeting by the DNA translocase FtsK. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 6531-6536.	7.1	56
49	The Escherichia coli SMC Complex, MukBEF, Shapes Nucleoid Organization Independently of DNA Replication. Journal of Bacteriology, 2012, 194, 4669-4676.	2.2	50
50	Small Plasmids HarboringqnrB19: a Model for Plasmid Evolution Mediated by Site-Specific Recombination atoriTand Xer Sites. Antimicrobial Agents and Chemotherapy, 2012, 56, 1821-1827.	3.2	49
51	Chromosome Replication and Segregation in Bacteria. Annual Review of Genetics, 2012, 46, 121-143.	7.6	194
52	In Vivo Architecture and Action of Bacterial Structural Maintenance of Chromosome Proteins. Science, 2012, 338, 528-531.	12.6	253
53	Replication and segregation of an <i>Escherichia coli</i> chromosome with two replication origins. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, E243-50.	7.1	84
54	Stoichiometry and Architecture of Active DNA Replication Machinery in <i>Escherichia coli</i>. Science, 2010, 328, 498-501.	12.6	382

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55	Replicationâ€directed sister chromosome alignment in <i>Escherichia coli</i>. Molecular Microbiology, 2010, 75, 1090-1097.	2.5	23
56	Sequence-specific assembly of FtsK hexamers establishes directional translocation on DNA. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20263-20268.	7.1	46
57	<i>fpr</i> , a Deficient Xer Recombination Site from a <i>Salmonella</i> Plasmid, Fails To Confer Stability by Dimer Resolution: Comparative Studies with the pJHCMW1 <i>mwr</i> Site. Journal of Bacteriology, 2010, 192, 883-887.	2.2	11
58	Independent Segregation of the Two Arms of the<i>Escherichia coli ori</i>Region Requires neither RNA Synthesis nor MreB Dynamics. Journal of Bacteriology, 2010, 192, 6143-6153.	2.2	35
59	The <i>Escherichia coli</i> DNA translocase FtsK. Biochemical Society Transactions, 2010, 38, 395-398.	3.4	65
60	A molecular carâ€crash: a speeding motor hits a new ultraâ€stable nonâ€covalent interaction. FASEB Journal, 2010, 24, lb168.	0.5	0
61	KOPSâ€guided DNA translocation by FtsK safeguards <i>Escherichia coli</i> chromosome segregation. Molecular Microbiology, 2009, 71, 1031-1042.	2.5	32
62	mwr Xer site-specific recombination is hypersensitive to DNA supercoiling. Nucleic Acids Research, 2009, 37, 3580-3587.	14.5	15
63	Molecular Mechanism of Sequence-Directed DNA Loading and Translocation by FtsK. Molecular Cell, 2008, 31, 498-509.	9.7	97
64	Independent Positioning and Action of Escherichia coli Replisomes in Live Cells. Cell, 2008, 133, 90-102.	28.9	267
65	Modulation of <i>Escherichia coli</i> sister chromosome cohesion by topoisomerase IV. Genes and Development, 2008, 22, 2426-2433.	5.9	110
66	Unlinking chromosome catenanes in vivo by site-specific recombination. EMBO Journal, 2007, 26, 4228-4238.	7.8	93
67	MukB colocalizes with the <i>oriC</i> region and is required for organization of the two <i>Escherichia coli</i> chromosome arms into separate cell halves. Molecular Microbiology, 2007, 65, 1485-1492.	2.5	149
68	Double-Stranded DNA Translocation: Structure and Mechanism of Hexameric FtsK. Molecular Cell, 2006, 23, 457-469.	9.7	217
69	Transposition and site-specific recombination: adapting DNA cut-and-paste mechanisms to a variety of genetic rearrangements. FEMS Microbiology Reviews, 2006, 21, 157-178.	8.6	179
70	Dissection of a functional interaction between the DNA translocase, FtsK, and the XerD recombinase. Molecular Microbiology, 2006, 59, 1754-1766.	2.5	55
71	The FtsK Î³ domain directs oriented DNA translocation by interacting with KOPS. Nature Structural and Molecular Biology, 2006, 13, 965-972.	8.2	92
72	Tracking of controlled Escherichia coli replication fork stalling and restart at repressor-bound DNA in vivo. EMBO Journal, 2006, 25, 2596-2604.	7.8	107

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73	Replication fork blockage by transcription factor-DNA complexes in Escherichia coli. Nucleic Acids Research, 2006, 34, 5194-5202.	14.5	49
74	The two Escherichia coli chromosome arms locate to separate cell halves. Genes and Development, 2006, 20, 1727-1731.	5.9	198
75	Differences in Resolution of mwr -Containing Plasmid Dimers Mediated by the Klebsiella pneumoniae and Escherichia coli XerC Recombinases: Potential Implications in Dissemination of Antibiotic Resistance Genes. Journal of Bacteriology, 2006, 188, 2812-2820.	2.2	22
76	Dancing around the divisome: asymmetric chromosome segregation in Escherichia coli. Genes and Development, 2005, 19, 2367-2377.	5.9	151
77	The Single-Stranded Genome of Phage CTX Is the Form Used for Integration into the Genome of Vibrio cholerae. Molecular Cell, 2005, 19, 559-566.	9.7	146
78	Sequence-Directed DNA Translocation by Purified FtsK. Science, 2005, 307, 586-590.	12.6	163
79	Recombination and chromosome segregation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2004, 359, 61-69.	4.0	70
80	Asymmetric activation of Xer siteâ€specific recombination by FtsK. EMBO Reports, 2004, 5, 399-404.	4.5	52
81	Decatenation of DNA circles by FtsK-dependent Xer site-specific recombination. EMBO Journal, 2003, 22, 6399-6407.	7.8	77
82	Functional Analysis of the C-terminal Domains of the Site-specific Recombinases XerC and XerD. Journal of Molecular Biology, 2003, 330, 15-27.	4.2	14
83	Bacterial Chromosome Dynamics. Science, 2003, 301, 780-785.	12.6	178
84	Spatial and temporal organization of replicating <i>Escherichia coli</i> chromosomes. Molecular Microbiology, 2003, 49, 731-743.	2.5	360
85	Osmoregulation of Dimer Resolution at the Plasmid pJHCMW1 mwr Locus by Escherichia coli XerCD Recombination. Journal of Bacteriology, 2002, 184, 1607-1616.	2.2	17
86	Complete Nucleotide Sequence of Klebsiella pneumoniae Multiresistance Plasmid pJHCMW1. Antimicrobial Agents and Chemotherapy, 2002, 46, 3422-3427.	3.2	85
87	FtsK Is a DNA Motor Protein that Activates Chromosome Dimer Resolution by Switching the Catalytic State of the XerC and XerD Recombinases. Cell, 2002, 108, 195-205.	28.9	291
88	Enzymes that keep DNA under control. EMBO Reports, 2001, 2, 271-276.	4.5	2
89	Switching catalytic activity in the XerCD site-specific recombination machine 1 1Edited by J. Karn. Journal of Molecular Biology, 2001, 312, 45-57.	4.2	19
90	Chromosome segregation. Current Opinion in Microbiology, 2001, 4, 653-659.	5.1	35

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91	Interplay between recombination, cell division and chromosome structure during chromosome dimer resolution in Escherichia coli. Molecular Microbiology, 2001, 39, 904-913.	2.5	54
92	Resolution of Holliday junctions by RuvABC prevents dimer formation in rep mutants and UV-irradiated cells. Molecular Microbiology, 2000, 37, 180-191.	2.5	72
93	The importance of repairing stalled replication forks. Nature, 2000, 404, 37-41.	27.8	1,008
94	Coordinated control of XerC and XerD catalytic activities during holliday junction resolution 1 1Edited by M. Yaniv. Journal of Molecular Biology, 2000, 299, 391-403.	4.2	39
95	Stability by multimer resolution of pJHCMW1 is due to the Tn1331 resolvase and not to the Escherichia coli Xer system The GenBank accession number for the sequence of the pJHCMW1 EcoRIâ€“SacI fragment reported in this paper is AF135798.. Microbiology (United Kingdom), 2000, 146, 581-589.	1.8	36
96	Site-specific recombination at dif by Haemophilus influenzae XerC. Molecular Microbiology, 1999, 31, 915-926.	2.5	28
97	C-terminal interactions between the XerC and XerD site-specific recombinases. Molecular Microbiology, 1999, 32, 1031-1042.	2.5	21
98	Conservation of xer site-specific recombination genes in bacteria. Molecular Microbiology, 1999, 34, 1146-1148.	2.5	56
99	Reciprocal Control of Catalysis by the Tyrosine Recombinases XerC and XerD. Molecular Cell, 1999, 4, 949-959.	9.7	76
100	The ArcA/ArcB twoâ€component regulatory system of <i>Escherichia coli</i> is essential for Xer siteâ€specific recombination at <i>psi</i>. Molecular Microbiology, 1998, 28, 521-530.	2.5	52
101	Repressor titration: a novel system for selection and stable maintenance of recombinant plasmids. Nucleic Acids Research, 1998, 26, 2120-2124.	14.5	82
102	Pentapeptide scanning mutagenesis: random insertion of a variable five amino acid cassette in a target protein. Nucleic Acids Research, 1997, 25, 1866-1867.	14.5	86
103	Topological Selectivity in Xer Site-Specific Recombination. Cell, 1997, 88, 855-864.	28.9	109
104	DNA sequence of recombinaseâ€binding sites can determine Xer siteâ€specific recombination outcome. Molecular Microbiology, 1997, 23, 387-398.	2.5	21
105	Relating primary structure to function in the Escherichia coli XerD siteâ€specific recombinase. Molecular Microbiology, 1997, 24, 1071-1082.	2.5	17
106	DNA binding of Escherichia coli arginine repressor mutants altered in oligomeric state. Molecular Microbiology, 1997, 24, 1143-1156.	2.5	31
107	Transposition and site-specific recombination: adapting DNA cut-and-paste mechanisms to a variety of genetic rearrangements. FEMS Microbiology Reviews, 1997, 21, 157-178.	8.6	9
108	Cis and trans in site-specific recombination. Molecular Microbiology, 1996, 20, 234-237.	2.5	26

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109	Interactions of the site-specific recombinases XerC and XerD with the recombination site dif. Nucleic Acids Research, 1994, 22, 5613-5620.	14.5	50
110	Mutant Escherichia coli arginine repressor proteins that fail to bind l-arginine, yet retain the ability to bind their normal DNA-binding sites. Molecular Microbiology, 1994, 13, 609-618.	2.5	57
111	The sss gene product, which affects pyoverdin production in Pseudomonas aeruginosa 7NSK2, is a site-specific recombinease. Molecular Microbiology, 1994, 14, 1011-1020.	2.5	64
112	Two related recombinases are required for site-specific recombination at dif and cer in E. coli K12. Cell, 1993, 75, 351-361.	28.9	324
113	Site-specific recombination by Tn3 resolvase: Topological changes in the forward and reverse reactions. Cell, 1989, 58, 779-790.	28.9	188
114	Multimerization of high copy number plasmids causes instability: Cole 1 encodes a determinant essential for plasmid monomerization and stability. Cell, 1984, 36, 1097-1103.	28.9	469
115	Trans-complementable copy-number mutants of plasmid ColE1. Nature, 1980, 283, 216-218.	27.8	1,108
116	Dissection of the transposition process: A transposon-encoded site-specific recombination system. Molecular Genetics and Genomics, 1979, 175, 267-274.	2.4	260
117	The transposon Tn1 as a probe for studying ColE1 structure and function. Molecular Genetics and Genomics, 1977, 151, 151-160.	2.4	356
118	Chromosome Dimer Resolution. , 0, , 513-524.		9