Daniel E Kahne

List of Publications by Year in Descending Order

126	12,315	59	110
papers	citations	h-index	g-index
132	**14,378**	**15.9**	**6.58**
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
126	Genetic approaches to improve clorobiocin production in Streptomyces roseochromogenes NRRL 3504.. *Applied Microbiology and Biotechnology*, **2022**, 106, 1543	5.7	0
125	The Bacterial Cell Wall: From Lipid II Flipping to Polymerization.. *Chemical Reviews*, **2022**,	68.1	4
124	The assembly of □barrel outer membrane proteins. *Current Opinion in Microbiology*, **2021**, 60, 16-23	7.9	13
123	Efficient and flexible synthesis of new photoactivatable propofol analogs. *Bioorganic and Medicinal Chemistry Letters*, **2021**, 39, 127927	2.9	1
122	Structure and reconstitution of a hydrolase complex that may release peptidoglycan from the membrane after polymerization. *Nature Microbiology*, **2021**, 6, 34-43	26.6	9
121	Assembly and Maintenance of Lipids at the Bacterial Outer Membrane. *Chemical Reviews*, **2021**, 121, 5098-5123	68.1	25
120	Simple Secondary Amines Inhibit Growth of Gram-Negative Bacteria through Highly Selective Binding to Phenylalanyl-tRNA Synthetase. *Journal of the American Chemical Society*, **2021**, 143, 623-627	16.4	2
119	Structure of a nascent membrane protein as it folds on the BAM complex. *Nature*, **2020**, 583, 473-478	50.4	49
118	Structural coordination of polymerization and crosslinking by a SEDS-bPBP peptidoglycan synthase complex. *Nature Microbiology*, **2020**, 5, 813-820	26.6	36
117	Detection of Transport Intermediates in the Peptidoglycan Flippase MurJ Identifies Residues Essential for Conformational Cycling. *Journal of the American Chemical Society*, **2020**, 142, 5482-5486	16.4	9
116	Staphylococcus aureus cell growth and division are regulated by an amidase that trims peptides from uncrosslinked peptidoglycan. *Nature Microbiology*, **2020**, 5, 291-303	26.6	20
115	Chemical tools to characterize peptidoglycan synthases. *Current Opinion in Chemical Biology*, **2019**, 53, 44-50	9.7	15
114	FtsW is a peptidoglycan polymerase that is functional only in complex with its cognate penicillin-binding protein. *Nature Microbiology*, **2019**, 4, 587-594	26.6	143
113	Structural basis of unidirectional export of lipopolysaccharide to the cell surface. *Nature*, **2019**, 567, 550-553	50.4	69
112	Fine-Tuning of □Activation Suppresses Multiple Assembly-Defective Mutations in Escherichia coli. *Journal of Bacteriology*, **2019**, 201,	3.5	5
111	Direction of Chain Growth and Substrate Preferences of Shape, Elongation, Division, and Sporulation-Family Peptidoglycan Glycosyltransferases. *Journal of the American Chemical Society*, **2019**, 141, 12994-12997	16.4	12
110	Combining Mutations That Inhibit Two Distinct Steps of the ATP Hydrolysis Cycle Restores Wild-Type Function in the Lipopolysaccharide Transporter and Shows that ATP Binding Triggers Transport. *MBio*, **2019**, 10,	7.8	9

109	Formation of a β-barrel membrane protein is catalyzed by the interior surface of the assembly machine protein BamA. *ELife*, **2019**, 8,	8.9	31
108	Robust Suppression of Lipopolysaccharide Deficiency in Acinetobacter baumannii by Growth in Minimal Medium. *Journal of Bacteriology*, **2019**, 201,	3.5	9
107	Pathway-Directed Screen for Inhibitors of the Bacterial Cell Elongation Machinery. *Antimicrobial Agents and Chemotherapy*, **2019**, 63,	5.9	8
106	Substrate binding to BamD triggers a conformational change in BamA to control membrane insertion. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 2359-2364	11.5	35
105	Substrate Preferences Establish the Order of Cell Wall Assembly in Staphylococcus aureus. *Journal of the American Chemical Society*, **2018**, 140, 2442-2445	16.4	21
104	Lipopolysaccharide is transported to the cell surface by a membrane-to-membrane protein bridge. *Science*, **2018**, 359, 798-801	33.3	76
103	Antibiotic Combinations That Enable One-Step, Targeted Mutagenesis of Chromosomal Genes. *ACS Infectious Diseases*, **2018**, 4, 1007-1018	5.5	10
102	Structure of the peptidoglycan polymerase RodA resolved by evolutionary coupling analysis. *Nature*, **2018**, 556, 118-121	50.4	66
101	Membrane Potential Is Required for MurJ Function. *Journal of the American Chemical Society*, **2018**, 140, 4481-4484	16.4	26
100	A cluster of residues in the lipopolysaccharide exporter that selects substrate variants for transport to the outer membrane. *Molecular Microbiology*, **2018**, 109, 541-554	4.1	16
99	Cell-based screen for discovering lipopolysaccharide biogenesis inhibitors. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 6834-6839	11.5	44
98	Novobiocin Enhances Polymyxin Activity by Stimulating Lipopolysaccharide Transport. *Journal of the American Chemical Society*, **2018**, 140, 6749-6753	16.4	27
97	Outer Membrane Translocon Communicates with Inner Membrane ATPase To Stop Lipopolysaccharide Transport. *Journal of the American Chemical Society*, **2018**, 140, 12691-12694	16.4	16
96	A central role for PBP2 in the activation of peptidoglycan polymerization by the bacterial cell elongation machinery. *PLoS Genetics*, **2018**, 14, e1007726	6	61
95	Membrane integration of an essential β-barrel protein prerequires burial of an extracellular loop. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 2598-2603	11.5	26
94	A Fluorescent Probe Distinguishes between Inhibition of Early and Late Steps of Lipopolysaccharide Biogenesis in Whole Cells. *ACS Chemical Biology*, **2017**, 12, 928-932	4.9	19
93	In vitro reconstitution demonstrates the cell wall ligase activity of LCP proteins. *Nature Chemical Biology*, **2017**, 13, 396-401	11.7	46
92	Lipid II overproduction allows direct assay of transpeptidase inhibition by β-lactams. *Nature Chemical Biology*, **2017**, 13, 793-798	11.7	68

91	Outer Membrane Biogenesis. *Annual Review of Microbiology*, **2017**, 71, 539-556	17.5	142
90	Identification of a Functionally Unique Family of Penicillin-Binding Proteins. *Journal of the American Chemical Society*, **2017**, 139, 17727-17730	16.4	33
89	The Antibiotic Novobiocin Binds and Activates the ATPase That Powers Lipopolysaccharide Transport. *Journal of the American Chemical Society*, **2017**, 139, 17221-17224	16.4	38
88	Peptidoglycan Cross-Linking Preferences of Staphylococcus aureus Penicillin-Binding Proteins Have Implications for Treating MRSA Infections. *Journal of the American Chemical Society*, **2017**, 139, 9791-9794	16.4	26
87	SEDS proteins are a widespread family of bacterial cell wall polymerases. *Nature*, **2016**, 537, 634-638	50.4	293
86	Characterization of a stalled complex on the βbarrel assembly machine. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 8717-22	11.5	62
85	Identification of Residues in the Lipopolysaccharide ABC Transporter That Coordinate ATPase Activity with Extractor Function. *MBio*, **2016**, 7,	7.8	25
84	The Mechanism of Action of Lysobactin. *Journal of the American Chemical Society*, **2016**, 138, 100-3	16.4	44
83	Lipopolysaccharide transport and assembly at the outer membrane: the PEZ model. *Nature Reviews Microbiology*, **2016**, 14, 337-45	22.2	208
82	Cofactor bypass variants reveal a conformational control mechanism governing cell wall polymerase activity. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 4788-93	11.5	27
81	Lipopolysaccharide transport to the cell surface: periplasmic transport and assembly into the outer membrane. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2015**, 370,	5.8	41
80	Lipopolysaccharide transport to the cell surface: biosynthesis and extraction from the inner membrane. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2015**, 370,	5.8	47
79	Inhibition of the βbarrel assembly machine by a peptide that binds BamD. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 2011-6	11.5	77
78	Detection of Lipid-Linked Peptidoglycan Precursors by Exploiting an Unexpected Transpeptidase Reaction. *FASEB Journal*, **2015**, 29, 573.11	0.9	
77	Decoupling catalytic activity from biological function of the ATPase that powers lipopolysaccharide transport. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 4982-7	11.5	55
76	Detection of lipid-linked peptidoglycan precursors by exploiting an unexpected transpeptidase reaction. *Journal of the American Chemical Society*, **2014**, 136, 14678-81	16.4	72
75	Lipoprotein activators stimulate Escherichia coli penicillin-binding proteins by different mechanisms. *Journal of the American Chemical Society*, **2014**, 136, 52-5	16.4	60
74	Reconstitution of peptidoglycan cross-linking leads to improved fluorescent probes of cell wall synthesis. *Journal of the American Chemical Society*, **2014**, 136, 10874-7	16.4	79

73	Bacterial cell wall. MurJ is the flippase of lipid-linked precursors for peptidoglycan biogenesis. *Science*, **2014**, 345, 220-2	33.3	222
72	Moenomycin resistance mutations in Staphylococcus aureus reduce peptidoglycan chain length and cause aberrant cell division. *ACS Chemical Biology*, **2014**, 9, 459-67	4.9	42
71	LptE binds to and alters the physical state of LPS to catalyze its assembly at the cell surface. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 9467-72	11.5	52
70	A mutant Escherichia coli that attaches peptidoglycan to lipopolysaccharide and displays cell wall on its surface. *ELife*, **2014**, 3, e05334	8.9	14
69	Validation of inhibitors of an ABC transporter required to transport lipopolysaccharide to the cell surface in Escherichia coli. *Bioorganic and Medicinal Chemistry*, **2013**, 21, 4846-51	3.4	32
68	On the essentiality of lipopolysaccharide to Gram-negative bacteria. *Current Opinion in Microbiology*, **2013**, 16, 779-85	7.9	187
67	bam Lipoproteins Assemble BamA in vitro. *Biochemistry*, **2013**, 52, 6108-13	3.2	52
66	Tuning the moenomycin pharmacophore to enable discovery of bacterial cell wall synthesis inhibitors. *Journal of the American Chemical Society*, **2013**, 135, 3776-9	16.4	36
65	Forming cross-linked peptidoglycan from synthetic gram-negative Lipid II. *Journal of the American Chemical Society*, **2013**, 135, 4632-5	16.4	39
64	The Escherichia coli Lpt transenvelope protein complex for lipopolysaccharide export is assembled via conserved structurally homologous domains. *Journal of Bacteriology*, **2013**, 195, 1100-8	3.5	72
63	Development of protein microarray tools for the ex vivo profiling of O-linked N-acetylglucosamine transferase (OGT) substrates. *FASEB Journal*, **2013**, 27, lb68	0.9	
62	Cytoplasmic ATP hydrolysis powers transport of lipopolysaccharide across the periplasm in E. coli. *Science*, **2012**, 338, 1214-7	33.3	136
61	Regulated assembly of the transenvelope protein complex required for lipopolysaccharide export. *Biochemistry*, **2012**, 51, 4800-6	3.2	99
60	Regulation of cell size in response to nutrient availability by fatty acid biosynthesis in Escherichia coli. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, E2561-8	11.5	102
59	Disulfide rearrangement triggered by translocon assembly controls lipopolysaccharide export. *Science*, **2012**, 337, 1665-8	33.3	74
58	Activation of the Escherichia coli β-barrel assembly machine (Bam) is required for essential components to interact properly with substrate. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 3487-91	11.5	68
57	Transpeptidase-mediated incorporation of D-amino acids into bacterial peptidoglycan. *Journal of the American Chemical Society*, **2011**, 133, 10748-51	16.4	97
56	The reconstituted Escherichia coli Bam complex catalyzes multiple rounds of β-barrel assembly. *Biochemistry*, **2011**, 50, 7444-56	3.2	40

55	Modular synthesis of diphospholipid oligosaccharide fragments of the bacterial cell wall and their use to study the mechanism of moenomycin and other antibiotics. *Tetrahedron*, **2011**, 67, 9771-9778	2.4	29
54	N-methylimidazolium chloride-catalyzed pyrophosphate formation: application to the synthesis of Lipid I and NDP-sugar donors. *Bioorganic and Medicinal Chemistry Letters*, **2011**, 21, 5050-3	2.9	30
53	□Barrel membrane protein assembly by the Bam complex. *Annual Review of Biochemistry*, **2011**, 80, 189-210	29.1	254
52	Primer preactivation of peptidoglycan polymerases. *Journal of the American Chemical Society*, **2011**, 133, 8528-30	16.4	25
51	Lipoprotein LptE is required for the assembly of LptD by the beta-barrel assembly machine in the outer membrane of Escherichia coli. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 2492-7	11.5	97
50	The complex that inserts lipopolysaccharide into the bacterial outer membrane forms a two-protein plug-and-barrel. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 2486-91	11.5	138
49	Nonconsecutive disulfide bond formation in an essential integral outer membrane protein. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 12245-50	11.5	86
48	Characterization of the two-protein complex in Escherichia coli responsible for lipopolysaccharide assembly at the outer membrane. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 5363-8	11.5	152
47	The bacterial cell envelope. *Cold Spring Harbor Perspectives in Biology*, **2010**, 2, a000414	10.2	1674
46	Proteins required for lipopolysaccharide assembly in Escherichia coli form a transenvelope complex. *Biochemistry*, **2010**, 49, 4565-7	3.2	113
45	Development of an activity assay for discovery of inhibitors of lipopolysaccharide transport. *Journal of the American Chemical Society*, **2010**, 132, 2518-9	16.4	27
44	The role of the substrate lipid in processive glycan polymerization by the peptidoglycan glycosyltransferases. *Journal of the American Chemical Society*, **2010**, 132, 48-9	16.4	41
43	Lipoprotein cofactors located in the outer membrane activate bacterial cell wall polymerases. *Cell*, **2010**, 143, 1110-20	56.2	235
42	Reconstitution of outer membrane protein assembly from purified components. *Science*, **2010**, 328, 890-2	33.3	201
41	Transport of lipopolysaccharide across the cell envelope: the long road of discovery. *Nature Reviews Microbiology*, **2009**, 7, 677-83	22.2	205
40	Studying a cell division amidase using defined peptidoglycan substrates. *Journal of the American Chemical Society*, **2009**, 131, 18230-1	16.4	24
39	Isolated peptidoglycan glycosyltransferases from different organisms produce different glycan chain lengths. *Journal of the American Chemical Society*, **2008**, 130, 14068-9	16.4	36
38	Structural analysis of the contacts anchoring moenomycin to peptidoglycan glycosyltransferases and implications for antibiotic design. *ACS Chemical Biology*, **2008**, 3, 429-36	4.9	76

37	Identification of two inner-membrane proteins required for the transport of lipopolysaccharide to the outer membrane of Escherichia coli. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 5537-42	11.5	183
36	The direction of glycan chain elongation by peptidoglycan glycosyltransferases. *Journal of the American Chemical Society*, **2007**, 129, 12674-5	16.4	76
35	Chemoenzymatic formation of novel aminocoumarin antibiotics by the enzymes CouN1 and CouN7. *Biochemistry*, **2007**, 46, 8462-71	3.2	28
34	Structure and function of an essential component of the outer membrane protein assembly machine. *Science*, **2007**, 317, 961-4	33.3	302
33	Lipoprotein SmpA is a component of the YaeT complex that assembles outer membrane proteins in Escherichia coli. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 6400-5	11.5	240
32	Analysis of glycan polymers produced by peptidoglycan glycosyltransferases. *Journal of Biological Chemistry*, **2007**, 282, 31964-71	5.4	68
31	Crystal structure of a peptidoglycan glycosyltransferase suggests a model for processive glycan chain synthesis. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 5348-53	11.5	121
30	Defining the roles of the periplasmic chaperones SurA, Skp, and DegP in Escherichia coli. *Genes and Development*, **2007**, 21, 2473-84	12.6	336
29	Synthesis of heptaprenyl-lipid IV to analyze peptidoglycan glycosyltransferases. *Journal of the American Chemical Society*, **2007**, 129, 3080-1	16.4	59
28	Structure of a Fragment of the Bacterial Outer Membrane Protein Assembly Machinery. *FASEB Journal*, **2007**, 21, A41	0.9	
27	Identification of a protein complex that assembles lipopolysaccharide in the outer membrane of Escherichia coli. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 11754-9	11.5	267
26	Probing the barrier function of the outer membrane with chemical conditionality. *ACS Chemical Biology*, **2006**, 1, 385-95	4.9	55
25	Degradation and reconstruction of moenomycin A and derivatives: dissecting the function of the isoprenoid chain. *Journal of the American Chemical Society*, **2006**, 128, 14012-3	16.4	34
24	YfiO stabilizes the YaeT complex and is essential for outer membrane protein assembly in Escherichia coli. *Molecular Microbiology*, **2006**, 61, 151-64	4.1	234
23	Advances in understanding bacterial outer-membrane biogenesis. *Nature Reviews Microbiology*, **2006**, 4, 57-66	22.2	353
22	A systematic investigation of the synthetic utility of glycopeptide glycosyltransferases. *Journal of the American Chemical Society*, **2005**, 127, 10747-52	16.4	67
21	Chemical conditionality: a genetic strategy to probe organelle assembly. *Cell*, **2005**, 121, 307-17	56.2	238
20	Identification of a multicomponent complex required for outer membrane biogenesis in Escherichia coli. *Cell*, **2005**, 121, 235-45	56.2	565

19	Glycosylation of glycopeptides: a comparison of chemoenzymatic and chemical methods. *Tetrahedron: Asymmetry*, **2005**, 16, 599-603		12
18	A practical method for the stereoselective generation of beta-2-deoxy glycosyl phosphates. *Organic Letters*, **2004**, 6, 2873-6	6.2	29
17	Vancomycin analogues active against vanA-resistant strains inhibit bacterial transglycosylase without binding substrate. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 5658-63	11.5	125
16	Structural requirements for VanA activity of vancomycin analogues. *Tetrahedron*, **2002**, 58, 6585-6594	2.4	16
15	Genetic basis for activity differences between vancomycin and glycolipid derivatives of vancomycin. *Science*, **2001**, 294, 361-4	33.3	112
14	Better substrates for bacterial transglycosylases. *Journal of the American Chemical Society*, **2001**, 123, 3155-6	16.4	142
13	Tandem action of glycosyltransferases in the maturation of vancomycin and teicoplanin aglycones: novel glycopeptides. *Biochemistry*, **2001**, 40, 4745-55	3.2	144
12	Hybrid glycopeptide antibiotics. *Journal of the American Chemical Society*, **2001**, 123, 12722-3	16.4	38
11	The Role of Hydrophobic Substituents in the Biological Activityof Glycopeptide Antibiotics. *Journal of the American Chemical Society*, **2000**, 122, 12608-12609	16.4	97
10	Design of an Oligosaccharide Scaffold That Binds in the Minor Groove of DNA. *Journal of the American Chemical Society*, **2000**, 122, 1883-1890	16.4	41
9	Vancomycin derivatives that inhibit peptidoglycan biosynthesis without binding D-Ala-D-Ala. *Science*, **1999**, 284, 507-11	33.3	304
8	Synthesis of Vancomycin from the Aglycon. *Journal of the American Chemical Society*, **1999**, 121, 1237-124	16.4	100
7	Scavenging Byproducts in the Sulfoxide Glycosylation Reaction: Application to the Synthesis of Ciclamycin 0. *Journal of the American Chemical Society*, **1999**, 121, 6176-6182	16.4	83
6	Sulfenate Intermediates in the Sulfoxide Glycosylation Reaction. *Journal of the American Chemical Society*, **1998**, 120, 5961-5969	16.4	83
5	Reconstruction of Vancomycin by Chemical Glycosylation of the Pseudoaglycon. *Journal of the American Chemical Society*, **1998**, 120, 11014-11015	16.4	37
4	Generalizing Glycosylation: Synthesis of the Blood Group Antigens Lea, Leb, and Lex Using a Standard Set of Reaction Conditions. *Journal of the American Chemical Society*, **1996**, 118, 9239-9248	16.4	122
3	Glycosylation of unreactive substrates. *Journal of the American Chemical Society*, **1989**, 111, 6881-6882	16.4	432
2	FtsW is a peptidoglycan polymerase that is activated by its cognate penicillin-binding protein		9