Michael Scott VanNieuwenhze

List of Publications by Year in descending order

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101 papers	11,120 citations	71102 41 h-index	32842 100 g-index
123	123	123	10509
all docs	docs citations	times ranked	citing authors

#	Article	lF	CITATIONS
1	Lytic transglycosylases mitigate periplasmic crowding by degrading soluble cell wall turnover products. ELife, 2022, 11, .	6.0	169
2	FtsZ-mediated fission of a cuboid bacterial symbiont. IScience, 2022, 25, 103552.	4.1	2
3	Dynamics of plasmid-mediated niche invasion, immunity to invasion, and pheromone-inducible conjugation in the murine gastrointestinal tract. Nature Communications, 2022, 13, 1377.	12.8	4
4	Organization of peptidoglycan synthesis in nodes and separate rings at different stages of cell division of <i>Streptococcus pneumoniae</i> . Molecular Microbiology, 2021, 115, 1152-1169.	2.5	22
5	Class A Penicillin-Binding Protein-Mediated Cell Wall Synthesis Promotes Structural Integrity during Peptidoglycan Endopeptidase Insufficiency in Vibrio cholerae. MBio, 2021, 12, .	4.1	11
6	Unipolar Peptidoglycan Synthesis in the <i>Rhizobiales</i> Requires an Essential Class A Penicillin-Binding Protein. MBio, 2021, 12, e0234621.	4.1	21
7	The bacterial tyrosine kinase system CpsBCD governs the length of capsule polymers. Proceedings of the United States of America, 2021, 118, .	7.1	7
8	Characterisation of a putative M23-domain containing protein in Mycobacterium tuberculosis. PLoS ONE, 2021, 16, e0259181.	2.5	4
9	A Division of Labor in the Recruitment and Topological Organization of a Bacterial Morphogenic Complex. Current Biology, 2020, 30, 3908-3922.e4.	3.9	15
10	The Pneumococcal Iron Uptake Protein A (PiuA) Specifically Recognizes Tetradentate FellIbis- and Mono-Catechol Complexes. Journal of Molecular Biology, 2020, 432, 5390-5410.	4.2	13
11	Synthesis of 9-Dechlorochrysophaentin A Enables Studies Revealing Bacterial Cell Wall Biosynthesis Inhibition Phenotype in B. subtilis. Journal of the American Chemical Society, 2020, 142, 16161-16166.	13.7	4
12	Non-walled spherical <i>Acinetobacter baumannii</i> is an important type of persister upon <i>β</i> -lactam antibiotic treatment. Emerging Microbes and Infections, 2020, 9, 1149-1159.	6.5	17
13	Essential dynamic interdependence of FtsZ and SepF for Z-ring and septum formation in Corynebacterium glutamicum. Nature Communications, 2020, 11, 1641.	12.8	29
14	Distinct cytoskeletal proteins define zones of enhanced cell wall synthesis in Helicobacter pylori. ELife, 2020, 9, .	6.0	51
15	<scp>d</scp> -Amino Acid Derivatives as in Situ Probes for Visualizing Bacterial Peptidoglycan Biosynthesis. Accounts of Chemical Research, 2019, 52, 2713-2722.	15.6	52
16	Spheroplast-Mediated Carbapenem Tolerance in Gram-Negative Pathogens. Antimicrobial Agents and Chemotherapy, 2019, 63, .	3.2	35
17	SEDS–bPBP pairs direct lateral and septal peptidoglycan synthesis in Staphylococcus aureus. Nature Microbiology, 2019, 4, 1368-1377	13.3	77
18	Scalable Synthesis of Orthogonally Protected β-Methyllanthionines by Indium(III)-Mediated Ring Opening of Aziridines. Organic Letters, 2019, 21, 2200-2203.	4.6	9

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19	Fluorogenic d-amino acids enable real-time monitoring of peptidoglycan biosynthesis and high-throughput transpeptidation assays. Nature Chemistry, 2019, 11, 335-341.	13.6	72
20	An Acinetobacter baumannii, Zinc-Regulated Peptidase Maintains Cell Wall Integrity during Immune-Mediated Nutrient Sequestration. Cell Reports, 2019, 26, 2009-2018.e6.	6.4	61
21	Mechanisms of Incorporation for <scp>D</scp> -Amino Acid Probes That Target Peptidoglycan Biosynthesis. ACS Chemical Biology, 2019, 14, 2745-2756.	3.4	101
22	Studies toward the Total Synthesis of Nogalamycin: Construction of the Complete ABCDEF-Ring System via a Convergent Hauser Annulation. Journal of Organic Chemistry, 2019, 84, 760-768.	3.2	12
23	Construction of the DEF–Benzoxocin Ring System of Nogalamycin and Menogaril via a Reductive Heck Cyclization. Journal of Organic Chemistry, 2019, 84, 173-180.	3.2	5
24	Optimized Protocol for the Incorporation of FDAA (HADA Labeling) for in situ Labeling of Peptidoglycan. Bio-protocol, 2019, 9, e3316.	0.4	6
25	Peptidoglycan synthesis drives an FtsZ-treadmilling-independent step of cytokinesis. Nature, 2018, 554, 528-532.	27.8	149
26	Coupling of polymerase and carrier lipid phosphatase prevents product inhibition in peptidoglycan synthesis. Cell Surface, 2018, 2, 1-13.	3.0	23
27	Imaging Bacterial Cell Wall Biosynthesis. Annual Review of Biochemistry, 2018, 87, 991-1014.	11.1	69
28	Host-Polarized Cell Growth in Animal Symbionts. Current Biology, 2018, 28, 1039-1051.e5.	3.9	37
29	Z-ring membrane anchors associate with cell wall synthases to initiate bacterial cell division. Nature Communications, 2018, 9, 5090.	12.8	60
30	Copper inhibits peptidoglycan LD-transpeptidases suppressing Î ² -lactam resistance due to bypass of penicillin-binding proteins. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 10786-10791.	7.1	59
31	Use of a Fluorescent Analogue of a HBV Core Protein-Directed Drug To Interrogate an Antiviral Mechanism. Journal of the American Chemical Society, 2018, 140, 15261-15269.	13.7	10
32	The Fluorescent D-Amino Acid NADA as a Tool to Study the Conditional Activity of Transpeptidases in Escherichia coli. Frontiers in Microbiology, 2018, 9, 2101.	3.5	26
33	The cell wall hydrolase Pmp23 is important for assembly and stability of the division ring in Streptococcus pneumoniae. Scientific Reports, 2018, 8, 7591.	3.3	8
34	Genetic Determinants of Penicillin Tolerance in Vibrio cholerae. Antimicrobial Agents and Chemotherapy, 2018, 62, .	3.2	44
35	Hepatitis B virus core protein allosteric modulators can distort and disrupt intact capsids. ELife, 2018, 7, .	6.0	76
36	An Assembly-Activating Site in the Hepatitis B Virus Capsid Protein Can Also Trigger Disassembly. ACS Chemical Biology, 2018, 13, 2114-2120.	3.4	25

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37	Probing the Role of Peptidoglycan Metabolism in Helicobacter pylori 's Helical Shape. FASEB Journal, 2018, 32, 673.27.	0.5	0
38	Dual Mode of Action for Plusbacin A ₃ in <i>Staphylococcus aureus</i> . Journal of Physical Chemistry B, 2017, 121, 1499-1505.	2.6	17
39	A Periplasmic Polymer Curves Vibrio cholerae and Promotes Pathogenesis. Cell, 2017, 168, 172-185.e15.	28.9	78
40	Treadmilling by FtsZ filaments drives peptidoglycan synthesis and bacterial cell division. Science, 2017, 355, 739-743.	12.6	503
41	Construction of the DEF-ring system of nogalamycin and menogaril via an efficient Suzuki-Miyaura reaction. Tetrahedron Letters, 2017, 58, 2236-2239.	1.4	4
42	Evidence for a peptidoglycanâ€like structure in <i>Orientia tsutsugamushi</i> . Molecular Microbiology, 2017, 105, 440-452.	2.5	32
43	Peptidoglycan Oâ€acetylation is functionally related to cell wall biosynthesis and cell division in <i>Streptococcus pneumoniae</i> . Molecular Microbiology, 2017, 106, 832-846.	2.5	18
44	Fluorescent D-amino-acids reveal bi-cellular cell wall modifications important for Bdellovibrio bacteriovorus predation. Nature Microbiology, 2017, 2, 1648-1657.	13.3	103
45	A programmed cell division delay preserves genome integrity during natural genetic transformation in Streptococcus pneumoniae. Nature Communications, 2017, 8, 1621.	12.8	42
46	Full color palette of fluorescent <scp>d</scp> -amino acids for in situ labeling of bacterial cell walls. Chemical Science, 2017, 8, 6313-6321.	7.4	111
47	Factors essential for L,D-transpeptidase-mediated peptidoglycan cross-linking and β-lactam resistance in Escherichia coli. ELife, 2016, 5, .	6.0	137
48	Methods for visualization of peptidoglycan biosynthesis. Methods in Microbiology, 2016, , 3-48.	0.8	12
49	The mechanism of force transmission at bacterial focal adhesion complexes. Nature, 2016, 539, 530-535.	27.8	120
50	Live imaging of the genetically intractable obligate intracellular bacteria Orientia tsutsugamushi using a panel of fluorescent dyes. Journal of Microbiological Methods, 2016, 130, 169-176.	1.6	28
51	Structure–function analysis of the extracellular domain of the pneumococcal cell division site positioning protein MapZ. Nature Communications, 2016, 7, 12071.	12.8	23
52	FtsZ-Dependent Elongation of a Coccoid Bacterium. MBio, 2016, 7, .	4.1	21
53	D-Alanine-Controlled Transient Intestinal Mono-Colonization with Non-Laboratory-Adapted Commensal E. coli Strain HS. PLoS ONE, 2016, 11, e0151872.	2.5	9
54	Pathogenic Chlamydia Lack a Classical Sacculus but Synthesize a Narrow, Mid-cell Peptidoglycan Ring, Regulated by MreB, for Cell Division. PLoS Pathogens, 2016, 12, e1005590.	4.7	86

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55	Anammox Planctomycetes have a peptidoglycan cell wall. Nature Communications, 2015, 6, 6878.	12.8	194
56	Electroreductive Dimerization of Coumarin and Coumarin Analogues at Carbon Cathodes. Journal of Organic Chemistry, 2015, 80, 274-280.	3.2	30
57	Minimal Peptidoglycan (PG) Turnover in Wild-Type and PG Hydrolase and Cell Division Mutants of Streptococcus pneumoniae D39 Growing Planktonically and in Host-Relevant Biofilms. Journal of Bacteriology, 2015, 197, 3472-3485.	2.2	56
58	Cell shape dynamics during the staphylococcal cell cycle. Nature Communications, 2015, 6, 8055.	12.8	208
59	Interplay of the Serine/Threonine-Kinase StkP and the Paralogs DivIVA and GpsB in Pneumococcal Cell Elongation and Division. PLoS Genetics, 2014, 10, e1004275.	3.5	166
60	MapZ marks the division sites and positions FtsZ rings in Streptococcus pneumoniae. Nature, 2014, 516, 259-262.	27.8	194
61	<scp>Pbp2x</scp> localizes separately from <scp>Pbp2b</scp> and other peptidoglycan synthesis proteins during later stages of cell division of <scp><i>S</i></scp> <i>treptococcus pneumoniae</i> â€ <scp>D</scp> 39. Molecular Microbiology, 2014, 94, 21-40.	2.5	88
62	A new metabolic cell-wall labelling method reveals peptidoglycan in Chlamydia trachomatis. Nature, 2014, 506, 507-510.	27.8	303
63	Atheroprotective immunization with malondialdehyde-modified LDL is hapten specific and dependent on advanced MDA adducts: implications for development of an atheroprotective vaccine. Journal of Lipid Research, 2014, 55, 2137-2155.	4.2	47
64	Discovery of chlamydial peptidoglycan reveals bacteria with murein sacculi but without FtsZ. Nature Communications, 2013, 4, 2856.	12.8	123
65	Peptidoglycan transformations during <i><scp>B</scp>acillus subtilis</i> sporulation. Molecular Microbiology, 2013, 88, 673-686.	2.5	109
66	The Isotridecanyl Side Chain of Plusbacin-A ₃ Is Essential for the Transglycosylase Inhibition of Peptidoglycan Biosynthesis. Biochemistry, 2013, 52, 1973-1979.	2.5	38
67	Solid-Phase Synthesis of Lysobactin (Katanosin B): Insights into Structure and Function. Organic Letters, 2012, 14, 2730-2733.	4.6	13
68	Inâ€Situ Probing of Newly Synthesized Peptidoglycan in Live Bacteria with Fluorescent <scp>D</scp> â€Amino Acids. Angewandte Chemie - International Edition, 2012, 51, 12519-12523.	13.8	541
69	A Model Study for Constructing the DEF-Benzoxocin Ring System of Menogaril and Nogalamycin via a Reductive Heck Cyclization. Organic Letters, 2012, 14, 1962-1965.	4.6	30
70	Biomimetic synthesis of Cbz-(S)-dolaphenine. Tetrahedron Letters, 2012, 53, 4989-4993.	1.4	4
71	Decarbonylative Approach to the Synthesis of Enamides from Amino Acids: Stereoselective Synthesis of the (Z)-Aminovinyl-d-Cysteine Unit of Mersacidin. Organic Letters, 2012, 14, 1030-1033.	4.6	38
72	Design and Synthesis of a Stable Oxidized Phospholipid Mimic with Specific Binding Recognition for Macrophage Scavenger Receptors. Journal of Medicinal Chemistry, 2012, 55, 8178-8182.	6.4	6

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73	Synthesis of the AviMeCys-Containing D-Ring of Mersacidin. Organic Letters, 2012, 14, 1034-1037.	4.6	22
74	Characterization of Oxidized Phosphatidylethanolamine Derived from RAW 264.7 Cells Using 4-(Dimethylamino) Benzoic Acid Derivatives. European Journal of Mass Spectrometry, 2010, 16, 463-470.	1.0	15
75	Synthetic Studies toward the Mannopeptimycins: Synthesis of Orthogonally Protected β-Hydroxyenduracididines. Organic Letters, 2010, 12, 1680-1683.	4.6	26
76	Small molecule detection by reflective interferometric Fourier transform spectroscopy (RIFTS). Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1318-1321.	1.8	18
77	Stable Isotope Labeled 4-(Dimethylamino)benzoic Acid Derivatives of Glycerophosphoethanolamine Lipids. Analytical Chemistry, 2009, 81, 6633-6640.	6.5	32
78	pH-triggered release of vancomycin from protein-capped porous silicon films. Nanomedicine, 2008, 3, 31-43.	3.3	74
79	A New Total Synthesis of Patellamide A. Organic Letters, 2008, 10, 4621-4623.	4.6	24
80	An Operationally Simple and Efficient Synthesis of Orthogonally Protected I-threo-β-Hydroxyasparagine. Synlett, 2007, 2007, 1513-1516.	1.8	7
81	Total Synthesis of Lysobactin. Journal of the American Chemical Society, 2007, 129, 6017-6021.	13.7	49
82	Total Synthesis of Plusbacin A3:Â A Depsipeptide Antibiotic Active Against Vancomycin-Resistant Bacteria. Journal of the American Chemical Society, 2007, 129, 4175-4177.	13.7	59
83	Synthesis of Substrates and Biochemical Probes for Study of the Peptidoglycan Biosynthetic Pathway. European Journal of Organic Chemistry, 2007, 2007, 1399-1414.	2.4	21
84	A simplified biomolecule attachment strategy for biosensing using a porous Si oxide interferometer. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 1394-1398.	1.8	6
85	A comprehensive classification system for lipids. Journal of Lipid Research, 2005, 46, 839-861.	4.2	1,348
86	A comprehensive classification system for lipids. European Journal of Lipid Science and Technology, 2005, 107, 337-364.	1.5	94
87	Versatile and Stereoselective Syntheses of Orthogonally Protected β-Methylcysteine and β-Methyllanthionine. Organic Letters, 2005, 7, 2655-2658.	4.6	69
88	The LIPID MAPS Approach to Lipidomics. , 2005, , 1-16.		12
89	An NMR Method for Assigning Relative Stereochemistry to β-Hydroxy Ketones Deriving from Aldol Reactions of Methyl Ketones. Journal of Organic Chemistry, 2002, 67, 4284-4289.	3.2	28
90	The First Total Synthesis of Lipid II:Â The Final Monomeric Intermediate in Bacterial Cell Wall Biosynthesis. Journal of the American Chemical Society, 2002, 124, 3656-3660.	13.7	117

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91	The Total Synthesis of Lipid I. Journal of the American Chemical Society, 2001, 123, 6983-6988.	13.7	50
92	Synthesis of an Orthogonally Protected Precursor to the Glycan Repeating Unit of the Bacterial Cell Wall. Organic Letters, 2001, 3, 3575-3577.	4.6	23
93	Diastereoselective aldol reactions of chiral aldehydes and chiral methyl ketones: Dependence of stereoselectivity on the metal enolate, the aldehyde 2,3-stereochemistry, and the aldehyde β-alkoxy protecting group. Tetrahedron Letters, 1995, 36, 3443-3446.	1.4	37
94	Synthesis of the C(3)î—,C(15) segment of rutamycin B via a C(8)î—,C(9) fragment assembly aldol reaction: Metal dependence of the aldehyde and enolate diastereofacial selectivities. Tetrahedron Letters, 1995, 36, 3447-3450.	1.4	20
95	The asymmetric dihydroxylation of cis-allylic and homoallylic alcohols. Tetrahedron Letters, 1994, 35, 843-846.	1.4	44
96	Catalytic Asymmetric Dihydroxylation. Chemical Reviews, 1994, 94, 2483-2547.	47.7	3,603
97	[(Z)gamma[(DiisopropylidenealphaD-mannopyranosyl)oxy]allyl]tributylstannane: A New Chiral Reagent for the Asymmetric .alphaHydroxyallylation of Aldehydes. Journal of the American Chemical Society, 1994, 116, 8536-8543.	13.7	57
98	Kinetic resolution of racemic olefins via asymmetric dihydroxylation. Journal of the American Chemical Society, 1993, 115, 7864-7865.	13.7	65
99	A stereochemically general synthesis of 2-deoxyhexoses via the asymmetric allylboration of 2,3-epoxy aldehydes. Journal of Organic Chemistry, 1991, 56, 1636-1648.	3.2	102
100	Synthesis and structure-activity relationships of a novel series of non-peptide angiotensin II receptor binding inhibitors specific for the AT2 subtype. Journal of Medicinal Chemistry, 1991, 34, 3248-3260.	6.4	153
101	Identification of a <i>trans</i> -dominant mutation affecting proline dehydrogenase in <i>Escherichia coli</i> . Canadian Journal of Microbiology, 1985, 31, 988-993.	1.7	6