

Michael Scott VanNieuwenhze

List of Publications by Year in descending order

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101
papers

11,120
citations

81434

41
h-index

37326

100
g-index

123
all docs

123
docs citations

123
times ranked

11620
citing authors

#	ARTICLE	IF	CITATIONS
1	Catalytic Asymmetric Dihydroxylation. <i>Chemical Reviews</i> , 1994, 94, 2483-2547.	23.0	3,603
2	A comprehensive classification system for lipids. <i>Journal of Lipid Research</i> , 2005, 46, 839-861.	2.0	1,348
3	In situ Probing of Newly Synthesized Peptidoglycan in Live Bacteria with Fluorescent D-Amino Acids. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 12519-12523.	7.2	541
4	Treadmilling by FtsZ filaments drives peptidoglycan synthesis and bacterial cell division. <i>Science</i> , 2017, 355, 739-743.	6.0	503
5	A new metabolic cell-wall labelling method reveals peptidoglycan in <i>Chlamydia trachomatis</i> . <i>Nature</i> , 2014, 506, 507-510.	13.7	303
6	Cell shape dynamics during the staphylococcal cell cycle. <i>Nature Communications</i> , 2015, 6, 8055.	5.8	208
7	MapZ marks the division sites and positions FtsZ rings in <i>Streptococcus pneumoniae</i> . <i>Nature</i> , 2014, 516, 259-262.	13.7	194
8	Anammox Planctomycetes have a peptidoglycan cell wall. <i>Nature Communications</i> , 2015, 6, 6878.	5.8	194
9	Lytic transglycosylases mitigate periplasmic crowding by degrading soluble cell wall turnover products. <i>ELife</i> , 2022, 11, .	2.8	169
10	Interplay of the Serine/Threonine-Kinase StkP and the Paralogs DivIVA and GpsB in Pneumococcal Cell Elongation and Division. <i>PLoS Genetics</i> , 2014, 10, e1004275.	1.5	166
11	Synthesis and structure-activity relationships of a novel series of non-peptide angiotensin II receptor binding inhibitors specific for the AT2 subtype. <i>Journal of Medicinal Chemistry</i> , 1991, 34, 3248-3260.	2.9	153
12	Peptidoglycan synthesis drives an FtsZ-treadmilling-independent step of cytokinesis. <i>Nature</i> , 2018, 554, 528-532.	13.7	149
13	Factors essential for L,D-transpeptidase-mediated peptidoglycan cross-linking and β -lactam resistance in <i>Escherichia coli</i> . <i>ELife</i> , 2016, 5, .	2.8	137
14	Discovery of chlamydial peptidoglycan reveals bacteria with murein sacculi but without FtsZ. <i>Nature Communications</i> , 2013, 4, 2856.	5.8	123
15	The mechanism of force transmission at bacterial focal adhesion complexes. <i>Nature</i> , 2016, 539, 530-535.	13.7	120
16	The First Total Synthesis of Lipid II: The Final Monomeric Intermediate in Bacterial Cell Wall Biosynthesis. <i>Journal of the American Chemical Society</i> , 2002, 124, 3656-3660.	6.6	117
17	Full color palette of fluorescent D-amino acids for in situ labeling of bacterial cell walls. <i>Chemical Science</i> , 2017, 8, 6313-6321.	3.7	111
18	Peptidoglycan transformations during <i>Bacillus subtilis</i> sporulation. <i>Molecular Microbiology</i> , 2013, 88, 673-686.	1.2	109

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19	Fluorescent D-amino-acids reveal bi-cellular cell wall modifications important for Bdellovibrio bacteriovorus predation. <i>Nature Microbiology</i> , 2017, 2, 1648-1657.	5.9	103
20	A stereochemically general synthesis of 2-deoxyhexoses via the asymmetric allylboration of 2,3-epoxy aldehydes. <i>Journal of Organic Chemistry</i> , 1991, 56, 1636-1648.	1.7	102
21	Mechanisms of Incorporation for <i>D</i> -Amino Acid Probes That Target Peptidoglycan Biosynthesis. <i>ACS Chemical Biology</i> , 2019, 14, 2745-2756.	1.6	101
22	A comprehensive classification system for lipids. <i>European Journal of Lipid Science and Technology</i> , 2005, 107, 337-364.	1.0	94
23	<i>Pbp2x</i> localizes separately from <i>Pbp2b</i> and other peptidoglycan synthesis proteins during later stages of cell division of <i>S. pneumoniae</i> . <i>Molecular Microbiology</i> , 2014, 94, 21-40.	1.2	88
24	Pathogenic Chlamydia Lack a Classical Sacculus but Synthesize a Narrow, Mid-cell Peptidoglycan Ring, Regulated by MreB, for Cell Division. <i>PLoS Pathogens</i> , 2016, 12, e1005590.	2.1	86
25	A Periplasmic Polymer Curves <i>Vibrio cholerae</i> and Promotes Pathogenesis. <i>Cell</i> , 2017, 168, 172-185.e15.	13.5	78
26	SEDS- <i>b</i> BPB pairs direct lateral and septal peptidoglycan synthesis in <i>Staphylococcus aureus</i> . <i>Nature Microbiology</i> , 2019, 4, 1368-1377.	5.9	77
27	Hepatitis B virus core protein allosteric modulators can distort and disrupt intact capsids. <i>ELife</i> , 2018, 7, .	2.8	76
28	pH-triggered release of vancomycin from protein-capped porous silicon films. <i>Nanomedicine</i> , 2008, 3, 31-43.	1.7	74
29	Fluorogenic d-amino acids enable real-time monitoring of peptidoglycan biosynthesis and high-throughput transpeptidation assays. <i>Nature Chemistry</i> , 2019, 11, 335-341.	6.6	72
30	Versatile and Stereoselective Syntheses of Orthogonally Protected β^2 -Methylcysteine and β^2 -Methylanthionine. <i>Organic Letters</i> , 2005, 7, 2655-2658.	2.4	69
31	Imaging Bacterial Cell Wall Biosynthesis. <i>Annual Review of Biochemistry</i> , 2018, 87, 991-1014.	5.0	69
32	Kinetic resolution of racemic olefins via asymmetric dihydroxylation. <i>Journal of the American Chemical Society</i> , 1993, 115, 7864-7865.	6.6	65
33	An <i>Acinetobacter baumannii</i> , Zinc-Regulated Peptidase Maintains Cell Wall Integrity during Immune-Mediated Nutrient Sequestration. <i>Cell Reports</i> , 2019, 26, 2009-2018.e6.	2.9	61
34	Z-ring membrane anchors associate with cell wall synthases to initiate bacterial cell division. <i>Nature Communications</i> , 2018, 9, 5090.	5.8	60
35	Total Synthesis of Plusbacin A3: A Depsipeptide Antibiotic Active Against Vancomycin-Resistant Bacteria. <i>Journal of the American Chemical Society</i> , 2007, 129, 4175-4177.	6.6	59
36	Copper inhibits peptidoglycan LD-transpeptidases suppressing β^2 -lactam resistance due to bypass of penicillin-binding proteins. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 10786-10791.	3.3	59

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37	[(Z)-.gamma.-[(Diisopropylidene-.alpha.-D-mannopyranosyl)oxy]allyl]tributylstannane: A New Chiral Reagent for the Asymmetric .alpha.-Hydroxyallylation of Aldehydes. <i>Journal of the American Chemical Society</i> , 1994, 116, 8536-8543.	6.6	57
38	Minimal Peptidoglycan (PG) Turnover in Wild-Type and PG Hydrolase and Cell Division Mutants of <i>Streptococcus pneumoniae</i> D39 Growing Planktonically and in Host-Relevant Biofilms. <i>Journal of Bacteriology</i> , 2015, 197, 3472-3485.	1.0	56
39	<scp>d</scp>-Amino Acid Derivatives as in Situ Probes for Visualizing Bacterial Peptidoglycan Biosynthesis. <i>Accounts of Chemical Research</i> , 2019, 52, 2713-2722.	7.6	52
40	Distinct cytoskeletal proteins define zones of enhanced cell wall synthesis in <i>Helicobacter pylori</i> . <i>ELife</i> , 2020, 9, .	2.8	51
41	The Total Synthesis of Lipid I. <i>Journal of the American Chemical Society</i> , 2001, 123, 6983-6988.	6.6	50
42	Total Synthesis of Lysobactin. <i>Journal of the American Chemical Society</i> , 2007, 129, 6017-6021.	6.6	49
43	Atheroprotective immunization with malondialdehyde-modified LDL is hapten specific and dependent on advanced MDA adducts: implications for development of an atheroprotective vaccine. <i>Journal of Lipid Research</i> , 2014, 55, 2137-2155.	2.0	47
44	The asymmetric dihydroxylation of cis-allylic and homoallylic alcohols. <i>Tetrahedron Letters</i> , 1994, 35, 843-846.	0.7	44
45	Genetic Determinants of Penicillin Tolerance in <i>Vibrio cholerae</i> . <i>Antimicrobial Agents and Chemotherapy</i> , 2018, 62, .	1.4	44
46	A programmed cell division delay preserves genome integrity during natural genetic transformation in <i>Streptococcus pneumoniae</i> . <i>Nature Communications</i> , 2017, 8, 1621.	5.8	42
47	Decarbonylative Approach to the Synthesis of Enamides from Amino Acids: Stereoselective Synthesis of the (Z)-Aminovinyl-d-Cysteine Unit of Mersacidin. <i>Organic Letters</i> , 2012, 14, 1030-1033.	2.4	38
48	The Isotridecanyl Side Chain of Plusbacin-A ₃ Is Essential for the Transglycosylase Inhibition of Peptidoglycan Biosynthesis. <i>Biochemistry</i> , 2013, 52, 1973-1979.	1.2	38
49	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 I ² -alkoxy protecting group. <i>Tetrahedron Letters</i> , 1995, 36, 3443-3446.	0.7	37
50	Host-Polarized Cell Growth in Animal Symbionts. <i>Current Biology</i> , 2018, 28, 1039-1051.e5.	1.8	37
51	Spheroplast-Mediated Carbapenem Tolerance in Gram-Negative Pathogens. <i>Antimicrobial Agents and Chemotherapy</i> , 2019, 63, .	1.4	35
52	Stable Isotope Labeled 4-(Dimethylamino)benzoic Acid Derivatives of Glycerophosphoethanolamine Lipids. <i>Analytical Chemistry</i> , 2009, 81, 6633-6640.	3.2	32
53	Evidence for a peptidoglycan-like structure in <i>Orientia tsutsugamushi</i> . <i>Molecular Microbiology</i> , 2017, 105, 440-452.	1.2	32
54	A Model Study for Constructing the DEF-Benzoxocin Ring System of Menogaril and Nogalamycin via a Reductive Heck Cyclization. <i>Organic Letters</i> , 2012, 14, 1962-1965.	2.4	30

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55	Electroreductive Dimerization of Coumarin and Coumarin Analogues at Carbon Cathodes. <i>Journal of Organic Chemistry</i> , 2015, 80, 274-280.	1.7	30
56	Essential dynamic interdependence of FtsZ and SepF for Z-ring and septum formation in <i>Corynebacterium glutamicum</i> . <i>Nature Communications</i> , 2020, 11, 1641.	5.8	29
57	An NMR Method for Assigning Relative Stereochemistry to β^2 -Hydroxy Ketones Deriving from Aldol Reactions of Methyl Ketones. <i>Journal of Organic Chemistry</i> , 2002, 67, 4284-4289.	1.7	28
58	Live imaging of the genetically intractable obligate intracellular bacteria <i>Orientia tsutsugamushi</i> using a panel of fluorescent dyes. <i>Journal of Microbiological Methods</i> , 2016, 130, 169-176.	0.7	28
59	Synthetic Studies toward the Mannopectimycins: Synthesis of Orthogonally Protected β^2 -Hydroxyenduracididines. <i>Organic Letters</i> , 2010, 12, 1680-1683.	2.4	26
60	The Fluorescent D-Amino Acid NADA as a Tool to Study the Conditional Activity of Transpeptidases in <i>Escherichia coli</i> . <i>Frontiers in Microbiology</i> , 2018, 9, 2101.	1.5	26
61	An Assembly-Activating Site in the Hepatitis B Virus Capsid Protein Can Also Trigger Disassembly. <i>ACS Chemical Biology</i> , 2018, 13, 2114-2120.	1.6	25
62	A New Total Synthesis of Patellamide A. <i>Organic Letters</i> , 2008, 10, 4621-4623.	2.4	24
63	Synthesis of an Orthogonally Protected Precursor to the Glycan Repeating Unit of the Bacterial Cell Wall. <i>Organic Letters</i> , 2001, 3, 3575-3577.	2.4	23
64	Structure–function analysis of the extracellular domain of the pneumococcal cell division site positioning protein MapZ. <i>Nature Communications</i> , 2016, 7, 12071.	5.8	23
65	Coupling of polymerase and carrier lipid phosphatase prevents product inhibition in peptidoglycan synthesis. <i>Cell Surface</i> , 2018, 2, 1-13.	1.5	23
66	Synthesis of the AviMeCys-Containing D-Ring of Mersacidin. <i>Organic Letters</i> , 2012, 14, 1034-1037.	2.4	22
67	Organization of peptidoglycan synthesis in nodes and separate rings at different stages of cell division of <i>Streptococcus pneumoniae</i> . <i>Molecular Microbiology</i> , 2021, 115, 1152-1169.	1.2	22
68	Synthesis of Substrates and Biochemical Probes for Study of the Peptidoglycan Biosynthetic Pathway. <i>European Journal of Organic Chemistry</i> , 2007, 2007, 1399-1414.	1.2	21
69	FtsZ-Dependent Elongation of a Coccoid Bacterium. <i>MBio</i> , 2016, 7, .	1.8	21
70	Unipolar Peptidoglycan Synthesis in the <i>Rhizobiales</i> Requires an Essential Class A Penicillin-Binding Protein. <i>MBio</i> , 2021, 12, e0234621.	1.8	21
71	Synthesis of the C(3)–C(15) segment of rutamycin B via a C(8)–C(9) fragment assembly aldol reaction: Metal dependence of the aldehyde and enolate diastereofacial selectivities. <i>Tetrahedron Letters</i> , 1995, 36, 3447-3450.	0.7	20
72	Small molecule detection by reflective interferometric Fourier transform spectroscopy (RIFTS). <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2009, 206, 1318-1321.	0.8	18

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73	Peptidoglycan O-acetylation is functionally related to cell wall biosynthesis and cell division in <i>Streptococcus pneumoniae</i> . <i>Molecular Microbiology</i> , 2017, 106, 832-846.	1.2	18
74	Dual Mode of Action for Plusbacin A ₃ in <i>Staphylococcus aureus</i> . <i>Journal of Physical Chemistry B</i> , 2017, 121, 1499-1505.	1.2	17
75	Non-walled spherical <i>Acinetobacter baumannii</i> is an important type of persister upon β -lactam antibiotic treatment. <i>Emerging Microbes and Infections</i> , 2020, 9, 1149-1159.	3.0	17
76	Characterization of Oxidized Phosphatidylethanolamine Derived from RAW 264.7 Cells Using 4-(Dimethylamino) Benzoic Acid Derivatives. <i>European Journal of Mass Spectrometry</i> , 2010, 16, 463-470.	0.5	15
77	A Division of Labor in the Recruitment and Topological Organization of a Bacterial Morphogenic Complex. <i>Current Biology</i> , 2020, 30, 3908-3922.e4.	1.8	15
78	Solid-Phase Synthesis of Lysobactin (Katanosin B): Insights into Structure and Function. <i>Organic Letters</i> , 2012, 14, 2730-2733.	2.4	13
79	The Pneumococcal Iron Uptake Protein A (PiuA) Specifically Recognizes Tetradentate Fe(II)-bis- and Mono-Catechol Complexes. <i>Journal of Molecular Biology</i> , 2020, 432, 5390-5410.	2.0	13
80	Methods for visualization of peptidoglycan biosynthesis. <i>Methods in Microbiology</i> , 2016, , 3-48.	0.4	12
81	Studies toward the Total Synthesis of Nogalamycin: Construction of the Complete ABCDEF-Ring System via a Convergent Hauser Annulation. <i>Journal of Organic Chemistry</i> , 2019, 84, 760-768.	1.7	12
82	The LIPID MAPS Approach to Lipidomics. , 2005, , 1-16.		12
83	Class A Penicillin-Binding Protein-Mediated Cell Wall Synthesis Promotes Structural Integrity during Peptidoglycan Endopeptidase Insufficiency in <i>Vibrio cholerae</i> . <i>MBio</i> , 2021, 12, .	1.8	11
84	Use of a Fluorescent Analogue of a HBV Core Protein-Directed Drug To Interrogate an Antiviral Mechanism. <i>Journal of the American Chemical Society</i> , 2018, 140, 15261-15269.	6.6	10
85	Scalable Synthesis of Orthogonally Protected β -Methylanthionines by Indium(III)-Mediated Ring Opening of Aziridines. <i>Organic Letters</i> , 2019, 21, 2200-2203.	2.4	9
86	D-Alanine-Controlled Transient Intestinal Mono-Colonization with Non-Laboratory-Adapted Commensal <i>E. coli</i> Strain HS. <i>PLoS ONE</i> , 2016, 11, e0151872.	1.1	9
87	The cell wall hydrolase Pmp23 is important for assembly and stability of the division ring in <i>Streptococcus pneumoniae</i> . <i>Scientific Reports</i> , 2018, 8, 7591.	1.6	8
88	An Operationally Simple and Efficient Synthesis of Orthogonally Protected l-threo- β -Hydroxyasparagine. <i>Synlett</i> , 2007, 2007, 1513-1516.	1.0	7
89	The bacterial tyrosine kinase system CpsBCD governs the length of capsule polymers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	7
90	Identification of a <i>trans</i> -dominant mutation affecting proline dehydrogenase in <i>Escherichia coli</i> . <i>Canadian Journal of Microbiology</i> , 1985, 31, 988-993.	0.8	6

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91	A simplified biomolecule attachment strategy for biosensing using a porous Si oxide interferometer. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2007, 204, 1394-1398.	0.8	6
92	Design and Synthesis of a Stable Oxidized Phospholipid Mimic with Specific Binding Recognition for Macrophage Scavenger Receptors. <i>Journal of Medicinal Chemistry</i> , 2012, 55, 8178-8182.	2.9	6
93	Optimized Protocol for the Incorporation of FDAA (HADA Labeling) for in situ Labeling of Peptidoglycan. <i>Bio-protocol</i> , 2019, 9, e3316.	0.2	6
94	Construction of the DEF-Benzoxocin Ring System of Nogalamycin and Menogaril via a Reductive Heck Cyclization. <i>Journal of Organic Chemistry</i> , 2019, 84, 173-180.	1.7	5
95	Biomimetic synthesis of Cbz-(S)-dolaphenine. <i>Tetrahedron Letters</i> , 2012, 53, 4989-4993.	0.7	4
96	Construction of the DEF-ring system of nogalamycin and menogaril via an efficient Suzuki-Miyaura reaction. <i>Tetrahedron Letters</i> , 2017, 58, 2236-2239.	0.7	4
97	Synthesis of 9-Dechlorochrysopaentin A Enables Studies Revealing Bacterial Cell Wall Biosynthesis Inhibition Phenotype in <i>B. subtilis</i> . <i>Journal of the American Chemical Society</i> , 2020, 142, 16161-16166.	6.6	4
98	Characterisation of a putative M23-domain containing protein in <i>Mycobacterium tuberculosis</i> . <i>PLoS ONE</i> , 2021, 16, e0259181.	1.1	4
99	Dynamics of plasmid-mediated niche invasion, immunity to invasion, and pheromone-inducible conjugation in the murine gastrointestinal tract. <i>Nature Communications</i> , 2022, 13, 1377.	5.8	4
100	FtsZ-mediated fission of a cuboid bacterial symbiont. <i>IScience</i> , 2022, 25, 103552.	1.9	2
101	Probing the Role of Peptidoglycan Metabolism in <i>Helicobacter pylori</i> 's Helical Shape. <i>FASEB Journal</i> , 2018, 32, 673.27.	0.2	0