

# 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  
all docs

123  
docs citations

123  
times ranked

10509  
citing authors

#	ARTICLE	IF	CITATIONS
1	Catalytic Asymmetric Dihydroxylation. Chemical Reviews, 1994, 94, 2483-2547.	47.7	3,603
2	A comprehensive classification system for lipids. Journal of Lipid Research, 2005, 46, 839-861.	4.2	1,348
3	In situ Probing of Newly Synthesized Peptidoglycan in Live Bacteria with Fluorescent $\alpha$ -Amino Acids. Angewandte Chemie - International Edition, 2012, 51, 12519-12523.	13.8	541
4	Treadmilling by FtsZ filaments drives peptidoglycan synthesis and bacterial cell division. Science, 2017, 355, 739-743.	12.6	503
5	A new metabolic cell-wall labelling method reveals peptidoglycan in Chlamydia trachomatis. Nature, 2014, 506, 507-510.	27.8	303
6	Cell shape dynamics during the staphylococcal cell cycle. Nature Communications, 2015, 6, 8055.	12.8	208
7	MapZ marks the division sites and positions FtsZ rings in Streptococcus pneumoniae. Nature, 2014, 516, 259-262.	27.8	194
8	Anammox Planctomycetes have a peptidoglycan cell wall. Nature Communications, 2015, 6, 6878.	12.8	194
9	Lytic transglycosylases mitigate periplasmic crowding by degrading soluble cell wall turnover products. ELife, 2022, 11, .	6.0	169
10	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
11	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
12	Peptidoglycan synthesis drives an FtsZ-treadmilling-independent step of cytokinesis. Nature, 2018, 554, 528-532.	27.8	149
13	Factors essential for L,D-transpeptidase-mediated peptidoglycan cross-linking and $\beta$ -lactam resistance in Escherichia coli. ELife, 2016, 5, .	6.0	137
14	Discovery of chlamydial peptidoglycan reveals bacteria with murein sacculi but without FtsZ. Nature Communications, 2013, 4, 2856.	12.8	123
15	The mechanism of force transmission at bacterial focal adhesion complexes. Nature, 2016, 539, 530-535.	27.8	120
16	The First Total Synthesis of Lipid II: The Final Monomeric Intermediate in Bacterial Cell Wall Biosynthesis. Journal of the American Chemical Society, 2002, 124, 3656-3660.	13.7	117
17	Full color palette of fluorescent $\alpha$ -amino acids for in situ labeling of bacterial cell walls. Chemical Science, 2017, 8, 6313-6321.	7.4	111
18	Peptidoglycan transformations during Bacillus subtilis sporulation. Molecular Microbiology, 2013, 88, 673-686.	2.5	109

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19	Fluorescent D-amino-acids reveal bi-cellular cell wall modifications important for <i>Bdellovibrio bacteriovorus</i> predation. <i>Nature Microbiology</i> , 2017, 2, 1648-1657.	13.3	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.	3.2	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.	3.4	101
22	A comprehensive classification system for lipids. <i>European Journal of Lipid Science and Technology</i> , 2005, 107, 337-364.	1.5	94
23	<i>Pbp2x</i> localizes separately from <i>Pbp2b</i> and other peptidoglycan synthesis proteins during later stages of cell division of <i>Streptococcus pneumoniae</i> . <i>Molecular Microbiology</i> , 2014, 94, 21-40.	2.5	88
24	Pathogenic <i>Chlamydia</i> 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.	4.7	86
25	A Periplasmic Polymer Curves <i>Vibrio cholerae</i> and Promotes Pathogenesis. <i>Cell</i> , 2017, 168, 172-185.e15.	28.9	78
26	SEDs "bBPB pairs direct lateral and septal peptidoglycan synthesis in <i>Staphylococcus aureus</i> . <i>Nature Microbiology</i> , 2019, 4, 1368-1377.	13.3	77
27	Hepatitis B virus core protein allosteric modulators can distort and disrupt intact capsids. <i>ELife</i> , 2018, 7, .	6.0	76
28	pH-triggered release of vancomycin from protein-capped porous silicon films. <i>Nanomedicine</i> , 2008, 3, 31-43.	3.3	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.	13.6	72
30	Versatile and Stereoselective Syntheses of Orthogonally Protected $\beta^2$ -Methylcysteine and $\beta^2$ -Methylanthionine. <i>Organic Letters</i> , 2005, 7, 2655-2658.	4.6	69
31	Imaging Bacterial Cell Wall Biosynthesis. <i>Annual Review of Biochemistry</i> , 2018, 87, 991-1014.	11.1	69
32	Kinetic resolution of racemic olefins via asymmetric dihydroxylation. <i>Journal of the American Chemical Society</i> , 1993, 115, 7864-7865.	13.7	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.	6.4	61
34	Z-ring membrane anchors associate with cell wall synthases to initiate bacterial cell division. <i>Nature Communications</i> , 2018, 9, 5090.	12.8	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.	13.7	59
36	Copper inhibits peptidoglycan LD-transpeptidases suppressing $\beta^2$ -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.	7.1	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. Journal of the American Chemical Society, 1994, 116, 8536-8543.	13.7	57
38	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
39	<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
40	Distinct cytoskeletal proteins define zones of enhanced cell wall synthesis in Helicobacter pylori. ELife, 2020, 9, .	6.0	51
41	The Total Synthesis of Lipid I. Journal of the American Chemical Society, 2001, 123, 6983-6988.	13.7	50
42	Total Synthesis of Lysobactin. Journal of the American Chemical Society, 2007, 129, 6017-6021.	13.7	49
43	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
44	The asymmetric dihydroxylation of cis-allylic and homoallylic alcohols. Tetrahedron Letters, 1994, 35, 843-846.	1.4	44
45	Genetic Determinants of Penicillin Tolerance in Vibrio cholerae. Antimicrobial Agents and Chemotherapy, 2018, 62, .	3.2	44
46	A programmed cell division delay preserves genome integrity during natural genetic transformation in Streptococcus pneumoniae. Nature Communications, 2017, 8, 1621.	12.8	42
47	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
48	The Isotridecanyl Side Chain of Plusbacin-A<sub>3</sub> Is Essential for the Transglycosylase Inhibition of Peptidoglycan Biosynthesis. Biochemistry, 2013, 52, 1973-1979.	2.5	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 <sup>2</sup> -alkoxy protecting group. Tetrahedron Letters, 1995, 36, 3443-3446.	1.4	37
50	Host-Polarized Cell Growth in Animal Symbionts. Current Biology, 2018, 28, 1039-1051.e5.	3.9	37
51	Spheroplast-Mediated Carbapenem Tolerance in Gram-Negative Pathogens. Antimicrobial Agents and Chemotherapy, 2019, 63, .	3.2	35
52	Stable Isotope Labeled 4-(Dimethylamino)benzoic Acid Derivatives of Glycerophosphoethanolamine Lipids. Analytical Chemistry, 2009, 81, 6633-6640.	6.5	32
53	Evidence for a peptidoglycan-like structure in <i>Orientia tsutsugamushi</i>. Molecular Microbiology, 2017, 105, 440-452.	2.5	32
54	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

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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.	3.2	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.	12.8	29
57	An NMR Method for Assigning Relative Stereochemistry to $\beta^2$ -Hydroxy Ketones Deriving from Aldol Reactions of Methyl Ketones. <i>Journal of Organic Chemistry</i> , 2002, 67, 4284-4289.	3.2	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.	1.6	28
59	Synthetic Studies toward the Mannopectimycins: Synthesis of Orthogonally Protected $\beta^2$ -Hydroxyenduracidinidines. <i>Organic Letters</i> , 2010, 12, 1680-1683.	4.6	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.	3.5	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.	3.4	25
62	A New Total Synthesis of Patellamide A. <i>Organic Letters</i> , 2008, 10, 4621-4623.	4.6	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.	4.6	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.	12.8	23
65	Coupling of polymerase and carrier lipid phosphatase prevents product inhibition in peptidoglycan synthesis. <i>Cell Surface</i> , 2018, 2, 1-13.	3.0	23
66	Synthesis of the AviMeCys-Containing D-Ring of Mersacidin. <i>Organic Letters</i> , 2012, 14, 1034-1037.	4.6	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.	2.5	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.	2.4	21
69	FtsZ-Dependent Elongation of a Coccoid Bacterium. <i>MBio</i> , 2016, 7, .	4.1	21
70	Unipolar Peptidoglycan Synthesis in the <i>Rhizobiales</i> Requires an Essential Class A Penicillin-Binding Protein. <i>MBio</i> , 2021, 12, e0234621.	4.1	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.	1.4	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.	1.8	18

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73	Peptidoglycan Oâ€œacetylation is functionally related to cell wall biosynthesis and cell division in <i>Streptococcus pneumoniae</i> . Molecular Microbiology, 2017, 106, 832-846.	2.5	18
74	Dual Mode of Action for Plusbacin A <sub>3</sub> in <i>Staphylococcus aureus</i> . Journal of Physical Chemistry B, 2017, 121, 1499-1505.	2.6	17
75	Non-walled spherical <i>Acinetobacter baumannii</i> is an important type of persister upon $\beta^2$ -lactam antibiotic treatment. Emerging Microbes and Infections, 2020, 9, 1149-1159.	6.5	17
76	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
77	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
78	Solid-Phase Synthesis of Lysobactin (Katanosin B): Insights into Structure and Function. Organic Letters, 2012, 14, 2730-2733.	4.6	13
79	The Pneumococcal Iron Uptake Protein A (PiuA) Specifically Recognizes Tetradentate FeIIbis- and Mono-Catechol Complexes. Journal of Molecular Biology, 2020, 432, 5390-5410.	4.2	13
80	Methods for visualization of peptidoglycan biosynthesis. Methods in Microbiology, 2016, , 3-48.	0.8	12
81	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
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> . MBio, 2021, 12, .	4.1	11
84	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
85	Scalable Synthesis of Orthogonally Protected $\beta^2$ -Methyllanthionines by Indium(III)-Mediated Ring Opening of Aziridines. Organic Letters, 2019, 21, 2200-2203.	4.6	9
86	D-Alanine-Controlled Transient Intestinal Mono-Colonization with Non-Laboratory-Adapted Commensal <i>E. coli</i> Strain HS. PLoS ONE, 2016, 11, e0151872.	2.5	9
87	The cell wall hydrolase Pmp23 is important for assembly and stability of the division ring in <i>Streptococcus pneumoniae</i> . Scientific Reports, 2018, 8, 7591.	3.3	8
88	An Operationally Simple and Efficient Synthesis of Orthogonally Protected l-threo- $\beta^2$ -Hydroxyasparagine. Synlett, 2007, 2007, 1513-1516.	1.8	7
89	The bacterial tyrosine kinase system CpsBCD governs the length of capsule polymers. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	7
90	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

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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.	1.8	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.	6.4	6
93	Optimized Protocol for the Incorporation of FDAA (HADA Labeling) for in situ Labeling of Peptidoglycan. <i>Bio-protocol</i> , 2019, 9, e3316.	0.4	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.	3.2	5
95	Biomimetic synthesis of Cbz-(S)-dolaphenine. <i>Tetrahedron Letters</i> , 2012, 53, 4989-4993.	1.4	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.	1.4	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.	13.7	4
98	Characterisation of a putative M23-domain containing protein in <i>Mycobacterium tuberculosis</i> . <i>PLoS ONE</i> , 2021, 16, e0259181.	2.5	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.	12.8	4
100	FtsZ-mediated fission of a cuboid bacterial symbiont. <i>IScience</i> , 2022, 25, 103552.	4.1	2
101	Probing the Role of Peptidoglycan Metabolism in <i>Helicobacter pylori</i> 's Helical Shape. <i>FASEB Journal</i> , 2018, 32, 673.27.	0.5	0