Douglas A Mitchell

List of Publications by Year
in descending order

99 papers	10,381 citations	41258 49 h-index	45213 90 g-index
113 all docs	113 docs citations	113 times ranked	9214 citing authors

#	Article	IF	Citations
1	Ribosomally synthesized and post-translationally modified peptide natural products: overview and recommendations for a universal nomenclature. Natural Product Reports, 2013, 30, 108-160.	5.2	1,692
2	antiSMASH 4.0â€"improvements in chemistry prediction and gene cluster boundary identification. Nucleic Acids Research, 2017, 45, W36-W41.	6.5	1,196
3	Minimum Information about a Biosynthetic Gene cluster. Nature Chemical Biology, 2015, 11, 625-631.	3.9	715
4	New developments in RiPP discovery, enzymology and engineering. Natural Product Reports, 2021, 38, 130-239.	5.2	412
5	A new genome-mining tool redefines the lasso peptide biosynthetic landscape. Nature Chemical Biology, 2017, 13, 470-478.	3.9	346
6	A prevalent peptide-binding domain guides ribosomal natural product biosynthesis. Nature Chemical Biology, 2015, 11, 564-570.	3.9	288
7	Thioredoxin catalyzes the S-nitrosation of the caspase-3 active site cysteine. , 2005, 1, 154-158.		258
8	Multitarget Drug Discovery for Tuberculosis and Other Infectious Diseases. Journal of Medicinal Chemistry, 2014, 57, 3126-3139.	2.9	205
9	Discovery of a widely distributed toxin biosynthetic gene cluster. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 5879-5884.	3.3	182
10	Identification of a Potent and Selective Pharmacophore for Cdc25 Dual Specificity Phosphatase Inhibitors.. Molecular Pharmacology, 2002, 61, 720-728.	1.0	175
11	Plantazolicin, a Novel Microcin B17/Streptolysin S-Like Natural Product from <i>Bacillus amyloliquefaciens</i> FZB42. Journal of Bacteriology, 2011, 193, 215-224.	1.0	174
12	Thiazole/oxazole-modified microcins: complex natural products from ribosomal templates. Current Opinion in Chemical Biology, 2011, 15, 369-378.	2.8	170
13	YcaO-Dependent Posttranslational Amide Activation: Biosynthesis, Structure, and Function. Chemical Reviews, 2017, 117, 5389-5456.	23.0	166
14	FeIIIâ€"TAML-catalyzed green oxidative degradation of the azodyeOrange II by H2O2and organic peroxides: products, toxicity, kinetics, and mechanisms. Green Chemistry, 2007, 9, 49-57.	4.6	158
15	Catalaseâ^'Peroxidase Activity of Iron(III)â^'TAML Activators of Hydrogen Peroxide. Journal of the American Chemical Society, 2008, 130, 15116-15126.	6.6	158
16	In Vitro Biosynthesis of the Core Scaffold of the Thiopeptide Thiomuracin. Journal of the American Chemical Society, 2015, 137, 16012-16015.	6.6	145
17	Thioredoxin is required for S-nitrosation of procaspase-3 and the inhibition of apoptosis in Jurkat cells. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 11609-11614.	3.3	143
18	Streptolysin S-like virulence factors: the continuing sagA. Nature Reviews Microbiology, 2011, 9, 670-681.	13.6	140

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19	RiPP antibiotics: biosynthesis and engineering potential. Current Opinion in Microbiology, 2018, 45, 61-69.	2.3	138
20	Expansion of ribosomally produced natural products: a nitrile hydratase- and Nif11-related precursor family. BMC Biology, 2010, 8, 70.	1.7	134
21	Antibacterial drug leads targeting isoprenoid biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 123-128.	3.3	129
22	Biosynthesis and Chemical Applications of Thioamides. ACS Chemical Biology, 2019, 14, 142-163.	1.6	126
23	Bioinformatic Mapping of Radical <i>S</i>-Adenosylmethionine-Dependent Ribosomally Synthesized and Post-Translationally Modified Peptides Identifies New CÎ±, CÎ², and CÎ³-Linked Thioether-Containing Peptides. Journal of the American Chemical Society, 2019, 141, 8228-8238.	6.6	123
24	YcaO domains use ATP to activate amide backbones during peptide cyclodehydrations. Nature Chemical Biology, 2012, 8, 569-575.	3.9	121
25	Bioinformatic Expansion and Discovery of Thiopeptide Antibiotics. Journal of the American Chemical Society, 2018, 140, 9494-9501.	6.6	119
26	Subcellular Targeting and Differential S-Nitrosylation of Endothelial Nitric-oxide Synthase. Journal of Biological Chemistry, 2006, 281, 151-157.	1.6	103
27	Precursor peptide-targeted mining of more than one hundred thousand genomes expands the lanthipeptide natural product family. BMC Genomics, 2020, 21, 387.	1.2	102
28	Chimeric Leader Peptides for the Generation of Non-Natural Hybrid RiPP Products. ACS Central Science, 2017, 3, 629-638.	5.3	87
29	Post-translational thioamidation of methyl-coenzyme M reductase, a key enzyme in methanogenic and methanotrophic Archaea. ELife, 2017, 6, .	2.8	82
30	Structure Determination and Interception of Biosynthetic Intermediates for the Plantazolicin Class of Highly Discriminating Antibiotics. ACS Chemical Biology, 2011, 6, 1307-1313.	1.6	79
31	Structure, Bioactivity, and Resistance Mechanism of Streptomonomicin, an Unusual Lasso Peptide from an Understudied Halophilic Actinomycete. Chemistry and Biology, 2015, 22, 241-250.	6.2	78
32	Discovery of a new ATP-binding motif involved in peptidic azoline biosynthesis. Nature Chemical Biology, 2014, 10, 823-829.	3.9	77
33	Targeted treatment for bacterial infections: prospects for pathogen-specific antibiotics coupled with rapid diagnostics. Tetrahedron, 2016, 72, 3609-3624.	1.0	76
34	Biosynthetic Timing and Substrate Specificity for the Thiopeptide Thiomuracin. Journal of the American Chemical Society, 2016, 138, 15511-15514.	6.6	73
35	Enzymatic reconstitution of ribosomal peptide backbone thioamidation. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 3030-3035.	3.3	73
36	Structural insights into enzymatic [4+2] <i>aza</i> -cycloaddition in thiopeptide antibiotic biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 12928-12933.	3.3	70

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37	Enzymatic Reconstitution and Biosynthetic Investigation of the Lasso Peptide Fusilassin. Journal of the American Chemical Society, 2019, 141, 290-297.	6.6	70
38	S-Nitrosation and Regulation of Inducible Nitric Oxide Synthaseâ€. Biochemistry, 2005, 44, 4636-4647.	1.2	69
39	The genomic landscape of ribosomal peptides containing thiazole and oxazole heterocycles. BMC Genomics, 2015, 16, 778.	1.2	68
40	Radical <i>S</i>-Adenosylmethionine Enzymes Involved in RiPP Biosynthesis. Biochemistry, 2017, 56, 5229-5244.	1.2	66
41	Structural and Functional Dissection of the Heterocyclic Peptide Cytotoxin Streptolysin S. Journal of Biological Chemistry, 2009, 284, 13004-13012.	1.6	64
42	Expansion of Type II CAAX Proteases Reveals Evolutionary Origin of Î³-Secretase Subunit APH-1. Journal of Molecular Biology, 2011, 410, 18-26.	2.0	64
43	RadicalSAM.org: A Resource to Interpret Sequence-Function Space and Discover New Radical SAM Enzyme Chemistry. ACS Bio & Med Chem Au, 2022, 2, 22-35.	1.7	61
44	RRE-Finder: a Genome-Mining Tool for Class-Independent RiPP Discovery. MSystems, 2020, 5, .	1.7	60
45	Selectivity, Directionality, and Promiscuity in Peptide Processing from a <i>Bacillus</i> sp. Al Hakam Cyclodehydratase. Journal of the American Chemical Society, 2012, 134, 5309-5316.	6.6	59
46	Nucleophilic 1,4-Additions for Natural Product Discovery. ACS Chemical Biology, 2014, 9, 2014-2022.	1.6	58
47	Structural investigation of ribosomally synthesized natural products by hypothetical structure enumeration and evaluation using tandem MS. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12031-12036.	3.3	58
48	Profiling of Microbial Colonies for High-Throughput Engineering of Multistep Enzymatic Reactions via Optically Guided Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry. Journal of the American Chemical Society, 2017, 139, 12466-12473.	6.6	57
49	Clostridiolysin S, a Post-translationally Modified Biotoxin from Clostridium botulinum. Journal of Biological Chemistry, 2010, 285, 28220-28228.	1.6	56
50	Insights into the Mechanism of Peptide Cyclodehydrations Achieved through the Chemoenzymatic Generation of Amide Derivatives. Journal of the American Chemical Society, 2013, 135, 8692-8701.	6.6	53
51	Orchestration of Enzymatic Processing by Thiazole/Oxazole-Modified Microcin Dehydrogenases. Biochemistry, 2014, 53, 413-422.	1.2	49
52	Identification of an Auxiliary Leader Peptide-Binding Protein Required for Azoline Formation in Ribosomal Natural Products. Journal of the American Chemical Society, 2015, 137, 7672-7677.	6.6	48
53	Reconstitution and Substrate Specificity of the Radical <i>S</i>-Adenosyl-methionine Thiazole <i>C</i>-Methyltransferase in Thiomuracin Biosynthesis. Journal of the American Chemical Society, 2017, 139, 4310-4313.	6.6	45
54	Cell-Free Biosynthesis to Evaluate Lasso Peptide Formation and Enzymeâ€"Substrate Tolerance. Journal of the American Chemical Society, 2021, 143, 5917-5927.	6.6	44

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55	Undecaprenyl Diphosphate Synthase Inhibitors: Antibacterial Drug Leads. Journal of Medicinal Chemistry, 2014, 57, 5693-5701.	2.9	43
56	Structural and functional insight into an unexpectedly selective <i>N</i> -methyltransferase involved in plantazolicin biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12954-12959.	3.3	42
57	Targeting Reactive Carbonyls for Identifying Natural Products and Their Biosynthetic Origins. Journal of the American Chemical Society, 2016, 138, 15157-15166.	6.6	42
58	Engineering Unnatural Variants of Plantazolicin through Codon Reprogramming. ACS Chemical Biology, 2013, 8, 1998-2008.	1.6	39
59	Plantazolicin Is an Ultranarrow-Spectrum Antibiotic That Targets the <i>Bacillus anthracis</i> Membrane. ACS Infectious Diseases, 2016, 2, 207-220.	1.8	37
60	Mechanistic Basis for Ribosomal Peptide Backbone Modifications. ACS Central Science, 2019, 5, 842-851.	5.3	35
61	Revealing Natureâ€™s Synthetic Potential Through the Study of Ribosomal Natural Product Biosynthesis. ACS Chemical Biology, 2013, 8, 473-487.	1.6	33
62	In Vitro Biosynthetic Studies of Bottromycin Expand the Enzymatic Capabilities of the YcaO Superfamily. Journal of the American Chemical Society, 2017, 139, 18154-18157.	6.6	33
63	Mechanism of a Class C Radical <i>S</i>-Adenosyl-<scp>l</scp>-methionine Thiazole Methyl Transferase. Journal of the American Chemical Society, 2017, 139, 18623-18631.	6.6	33
64	Elucidation of the roles of conserved residues in the biosynthesis of the lasso peptide paeninodin. Chemical Communications, 2018, 54, 9007-9010.	2.2	32
65	Using Genomics for Natural Product Structure Elucidation. Current Topics in Medicinal Chemistry, 2016, 16, 1645-1694.	1.0	32
66	Bioinformatics-Guided Expansion and Discovery of Graspetides. ACS Chemical Biology, 2021, 16, 2787-2797.	1.6	31
67	Functional interactions between posttranslationally modified amino acids of methyl-coenzyme M reductase in Methanosarcina acetivorans. PLoS Biology, 2020, 18, e3000507.	2.6	29
68	Reconstitution and Substrate Specificity of the Thioether-Forming Radical <i>S</i>-Adenosylmethionine Enzyme in Freyrasin Biosynthesis. ACS Chemical Biology, 2019, 14, 1981-1989.	1.6	28
69	Sterol Sponge Mechanism Is Conserved for Glycosylated Polyene Macrolides. ACS Central Science, 2021, 7, 781-791.	5.3	27
70	Bioinformatic and Reactivity-Based Discovery of Linaridins. ACS Chemical Biology, 2020, 15, 2976-2985.	1.6	25
71	Microviridin 1777: A Toxic Chymotrypsin Inhibitor Discovered by a Metabologenomic Approach. Journal of Natural Products, 2020, 83, 438-446.	1.5	24
72	Functional elucidation of TfuA in peptide backbone thioamidation. Nature Chemical Biology, 2021, 17, 585-592.	3.9	21

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73	Lessons learned from the transformation of natural product discovery to a genome-driven endeavor. Journal of Industrial Microbiology and Biotechnology, 2014, 41, 315-331.	1.4	20
74	Reactivity-Based Screening for Citrulline-Containing Natural Products Reveals a Family of Bacterial Peptidyl Arginine Deiminases. ACS Chemical Biology, 2020, 15, 3167-3175.	1.6	19
75	Identification of the minimal cytolytic unit for streptolysin S and an expansion of the toxin family. BMC Microbiology, 2015, 15, 141.	1.3	18
76	Oxidation of pinacyanol chloride by H2O2 catalyzed by FeIII complexed to tetraamidomacrocyclic ligand: unusual kinetics and product identification. Journal of Coordination Chemistry, 2010, 63, 2605-2618.	0.8	17
77	HIV-1 Integrase Inhibitor-Inspired Antibacterials Targeting Isoprenoid Biosynthesis. ACS Medicinal Chemistry Letters, 2012, 3, 402-406.	1.3	16
78	Insights into Methyltransferase Specificity and Bioactivity of Derivatives of the Antibiotic Plantazolicin. ACS Chemical Biology, 2015, 10, 1209-1216.	1.6	16
79	Structure Prediction and Synthesis of Pyridine-Based Macrocyclic Peptide Natural Products. Organic Letters, 2021, 23, 253-256.	2.4	16
80	Synthesis of Plantazolicin Analogues Enables Dissection of Ligand Binding Interactions of a Highly Selective Methyltransferase. Organic Letters, 2013, 15, 5076-5079.	2.4	15
81	HIV Protease Inhibitors Block Streptolysin S Production. ACS Chemical Biology, 2015, 10, 1217-1226.	1.6	15
82	<i>In Vitro</i> Biosynthesis and Substrate Tolerance of the Plantazolicin Family of Natural Products. ACS Chemical Biology, 2016, 11, 2232-2243.	1.6	15
83	Biological characterization of the hygrobafilomycin antibiotic JBIR-100 and bioinformatic insights into the hygrolide family of natural products. Bioorganic and Medicinal Chemistry, 2016, 24, 6276-6290.	1.4	14
84	Design and Characterization of an Active Site Selective Caspase-3 Transnitrosating Agent. ACS Chemical Biology, 2006, 1, 659-665.	1.6	10
85	Accessing Diverse Pyridine-Based Macrocyclic Peptides by a Two-Site Recognition Pathway. Journal of the American Chemical Society, 2022, 144, 11263-11269.	6.6	8
86	Crystallization and preliminary X-ray diffraction analysis of YisP protein from<i>Bacillus subtilis</i>subsp.<i>subtilis</i>strain 168. Acta Crystallographica Section F: Structural Biology Communications, 2013, 69, 77-79.	0.7	6
87	Headâ€toâ€Head Prenyl Synthases in Pathogenic Bacteria. ChemBioChem, 2017, 18, 985-991.	1.3	6
88	Effects of S-nitrosation of nitric oxide synthase. Advances in Experimental Biology, 2007, 1, 151-456.	0.1	4
89	Correction to Revealing Natureâ€™s Synthetic Potential through the Study of Ribosomal Natural Product Biosynthesis. ACS Chemical Biology, 2013, 8, 1083-1083.	1.6	1
90	Enzymatic thioamidation of peptide backbones. Methods in Enzymology, 2021, 656, 459-494.	0.4	1

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91	Reactivity-based screening for natural product discovery. Methods in Enzymology, 2022, 665, 177-208.	0.4	1
92	Characterizing the plantazolicins: structure and discriminating activity of a novel class of natural products. FASEB Journal, 2012, 26, 552.1.	0.2	0
93	Crystal structure and absolute configuration of (3S,4aS,8aS)-N-tert-butyl-2-[(S)-3-(2-chloro-4-nitrobenzamido)-2-hydroxypropyl]decahydroisoquinoline-3-carboxamide and (3S,4aS,8aS)-N-tert-butyl-2-{(S)-2-[(S)-1-(2-chloro-4-nitrobenzoyl)pyrrolidin-2-yl]-2-hydroxyethyl}decahydroisoquinoline-3-carboxamide. Acta Crystallographica Section E: Crystallographic Communications, 2015, 71, 1401-1407.	0.2	0
94	Title is missing!. , 2020, 18, e3000507.		0
95	Title is missing!. , 2020, 18, e3000507.		0
96	Title is missing!. , 2020, 18, e3000507.		0
97	Title is missing!. , 2020, 18, e3000507.		0
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99	Title is missing!. , 2020, 18, e3000507.		0