David E Cane

List of Publications by Citations

214 papers	14,404 citations	68 h-index	107 g-index
242 ext. papers	15,740 ext. citations	10.5 avg, IF	6.44 L-index

#	Paper	IF	Citations
214	Biosynthesis of complex polyketides in a metabolically engineered strain of E. coli. *Science*, **2001**, 291, 1790-2	33.3	586
213	Enzymic formation of sesquiterpenes. *Chemical Reviews*, **1990**, 90, 1089-1103	68.1	395
212	Genome-minimized Streptomyces host for the heterologous expression of secondary metabolism. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 2646-51	11.5	377
211	Crystal structure of pentalenene synthase: mechanistic insights on terpenoid cyclization reactions in biology. *Science*, **1997**, 277, 1820-4	33.3	375
210	Tolerance and specificity of polyketide synthases. *Annual Review of Biochemistry*, **1999**, 68, 219-53	29.1	318
209	Dissecting and exploiting intermodular communication in polyketide synthases. *Science*, **1999**, 284, 482-5	33.3	295
208	Terpene synthases are widely distributed in bacteria. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 857-62	11.5	286
207	Precursor-directed biosynthesis of erythromycin analogs by an engineered polyketide synthase. *Science*, **1997**, 277, 367-9	33.3	246
206	Structure and mechanism of the 6-deoxyerythronolide B synthase. *Annual Review of Biochemistry*, **2007**, 76, 195-221	29.1	243
205	The 2.7-Angstrom crystal structure of a 194-kDa homodimeric fragment of the 6-deoxyerythronolide B synthase. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 11124-9	11.5	218
204	The parallel and convergent universes of polyketide synthases and nonribosomal peptide synthetases. *Chemistry and Biology*, **1999**, 6, R319-25		218
203	Unified stereochemical model of polyether antibiotic structure and biogenesis. *Journal of the American Chemical Society*, **1983**, 105, 3594-3600	16.4	191
202	Engineered Streptomyces avermitilis host for heterologous expression of biosynthetic gene cluster for secondary metabolites. *ACS Synthetic Biology*, **2013**, 2, 384-96	5.7	170
201	Biosynthesis of the earthy odorant geosmin by a bifunctional Streptomyces coelicolor enzyme. *Nature Chemical Biology*, **2007**, 3, 711-5	11.7	170
200	Manipulation of macrolide ring size by directed mutagenesis of a modular polyketide synthase. *Journal of the American Chemical Society*, **1995**, 117, 9105-9106	16.4	161
199	Crystal structure determination of aristolochene synthase from the blue cheese mold, Penicillium roqueforti. *Journal of Biological Chemistry*, **2000**, 275, 25533-9	5.4	142
198	Pentalenene synthase. Analysis of active site residues by site-directed mutagenesis. *Journal of the American Chemical Society*, **2002**, 124, 7681-9	16.4	135

197	Exploration and mining of the bacterial terpenome. *Accounts of Chemical Research*, **2012**, 45, 463-72	24.3	132
196	Isoprenoid biosynthesis. Stereochemistry of the cyclization of allylic pyrophosphates. *Accounts of Chemical Research*, **1985**, 18, 220-226	24.3	131
195	Pentalenene synthase. Purification, molecular cloning, sequencing, and high-level expression in Escherichia coli of a terpenoid cyclase from Streptomyces UC5319. *Biochemistry*, **1994**, 33, 5846-57	3.2	130
194	Biosynthesis of the sesquiterpene antibiotic albaflavenone in Streptomyces coelicolor A3(2). *Journal of Biological Chemistry*, **2008**, 283, 8183-9	5.4	126
193	Structural and mechanistic analysis of protein interactions in module 3 of the 6-deoxyerythronolide B synthase. *Chemistry and Biology*, **2007**, 14, 931-43		126
192	X-ray crystal structure of aristolochene synthase from Aspergillus terreus and evolution of templates for the cyclization of farnesyl diphosphate. *Biochemistry*, **2007**, 46, 1941-51	3.2	123
191	Mechanism and specificity of the terminal thioesterase domain from the erythromycin polyketide synthase. *Chemistry and Biology*, **1999**, 6, 117-25		122
190	Macrolide biosynthesis. 4. Intact incorporation of a chain-elongation intermediate into erythromycin.. *Journal of the American Chemical Society*, **1987**, 109, 1255-1257	16.4	120
189	Genome mining in Streptomyces coelicolor: molecular cloning and characterization of a new sesquiterpene synthase. *Journal of the American Chemical Society*, **2006**, 128, 6022-3	16.4	119
188	Expression and mechanistic analysis of a germacradienol synthase from Streptomyces coelicolor implicated in geosmin biosynthesis. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 1547-51	11.5	117
187	Structure of epi-isozizaene synthase from Streptomyces coelicolor A3(2), a platform for new terpenoid cyclization templates. *Biochemistry*, **2010**, 49, 1787-97	3.2	114
186	Assessing the balance between protein-protein interactions and enzyme-substrate interactions in the channeling of intermediates between polyketide synthase modules. *Journal of the American Chemical Society*, **2001**, 123, 6465-74	16.4	112
185	Selective protein-protein interactions direct channeling of intermediates between polyketide synthase modules. *Biochemistry*, **2001**, 40, 2326-31	3.2	109
184	Insights into channel architecture and substrate specificity from crystal structures of two macrocycle-forming thioesterases of modular polyketide synthases. *Biochemistry*, **2002**, 41, 12598-606	3.2	108
183	Quantitative analysis of the relative contributions of donor acyl carrier proteins, acceptor ketosynthases, and linker regions to intermodular transfer of intermediates in hybrid polyketide synthases. *Biochemistry*, **2002**, 41, 5056-66	3.2	107
182	Biochemistry and molecular genetics of the biosynthesis of the earthy odorant methylisoborneol in Streptomyces coelicolor. *Journal of the American Chemical Society*, **2008**, 130, 8908-9	16.4	105
181	Geosmin biosynthesis. Streptomyces coelicolor germacradienol/germacrene D synthase converts farnesyl diphosphate to geosmin. *Journal of the American Chemical Society*, **2006**, 128, 8128-9	16.4	103
180	Cell-free synthesis of polyketides by recombinant erythromycin polyketide synthases. *Nature*, **1995**, 378, 263-6	50.4	100

179	A gene cluster for biosynthesis of the sesquiterpenoid antibiotic pentalenolactone in Streptomyces avermitilis. *Biochemistry*, **2006**, 45, 6179-86	3.2	97
178	Geosmin biosynthesis in Streptomyces avermitilis. Molecular cloning, expression, and mechanistic study of the germacradienol/geosmin synthase. *Journal of Antibiotics*, **2006**, 59, 471-9	3.7	96
177	Biosynthesis of pentalenene and pentalenolactone. *Journal of the American Chemical Society*, **1990**, 112, 4513-4524	16.4	94
176	Assembly line polyketide synthases: mechanistic insights and unsolved problems. *Biochemistry*, **2014**, 53, 2875-83	3.2	93
175	Isolation and characterization of the gene associated with geosmin production in cyanobacteria. *Environmental Science & Technology*, **2008**, 42, 8027-32	10.3	92
174	Solution structure and proposed domain domain recognition interface of an acyl carrier protein domain from a modular polyketide synthase. *Protein Science*, **2007**, 16, 2093-107	6.3	92
173	Introduction: Polyketide and Nonribosomal Polypeptide Biosynthesis. From Collie to Coli. *Chemical Reviews*, **1997**, 97, 2463-2464	68.1	90
172	Evidence for two catalytically independent clusters of active sites in a functional modular polyketide synthase. *Biochemistry*, **1996**, 35, 12363-8	3.2	90
171	Structure of 4-diphosphocytidyl-2-C- methylerythritol synthetase involved in mevalonate-independent isoprenoid biosynthesis. *Nature Structural Biology*, **2001**, 8, 641-8		88
170	Engineered biosynthesis of a triketide lactone from an incomplete modular polyketide synthase. *Journal of the American Chemical Society*, **1994**, 116, 11612-11613	16.4	85
169	Aristolochene synthase: mechanistic analysis of active site residues by site-directed mutagenesis. *Journal of the American Chemical Society*, **2004**, 126, 7212-21	16.4	83
168	Trichodiene synthase. Probing the role of the highly conserved aspartate-rich region by site-directed mutagenesis. *Biochemistry*, **1996**, 35, 12369-76	3.2	82
167	Structure and mechanism of assembly line polyketide synthases. *Current Opinion in Structural Biology*, **2016**, 41, 10-18	8.1	81
166	Reprogramming a module of the 6-deoxyerythronolide B synthase for iterative chain elongation. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 4110-5	11.5	81
165	Stereochemical studies of isoprenoid biosynthesis. Biosynthesis of pentalenolactone from [U-13C6]glucose and [6-2H2]glucose. *Journal of the American Chemical Society*, **1981**, 103, 1838-1843	16.4	81
164	Extender unit and acyl carrier protein specificity of ketosynthase domains of the 6-deoxyerythronolide B synthase. *Journal of the American Chemical Society*, **2006**, 128, 3067-74	16.4	80
163	Cyclonerodiol biosynthesis and the enzymic conversion of farnesyl to nerolidyl pyrophosphate. *Journal of the American Chemical Society*, **1981**, 103, 914-931	16.4	80
162	Genome mining in Streptomyces avermitilis: cloning and characterization of SAV_76, the synthase for a new sesquiterpene, avermitilol. *Journal of the American Chemical Society*, **2010**, 132, 8850-1	16.4	79

161	Sesquiterpene Biosynthesis: Cyclization Mechanisms **1999**, 155-200		79
160	Revisiting the modularity of modular polyketide synthases. *Current Opinion in Chemical Biology*, **2009**, 13, 135-43	9.7	78
159	Dissecting the role of acyltransferase domains of modular polyketide synthases in the choice and stereochemical fate of extender units. *Biochemistry*, **1999**, 38, 1643-51	3.2	77
158	Engineered Biosynthesis of Structurally Diverse Tetraketides by a Trimodular Polyketide Synthase. *Journal of the American Chemical Society*, **1996**, 118, 9184-9185	16.4	77
157	X-ray crystal structures of D100E trichodiene synthase and its pyrophosphate complex reveal the basis for terpene product diversity. *Biochemistry*, **2002**, 41, 1732-41	3.2	76
156	Alcohol Stereochemistry in Polyketide Backbones Is Controlled by the Ketoreductase Domains of Modular Polyketide Synthases. *Journal of the American Chemical Society*, **1998**, 120, 2478-2479	16.4	76
155	Stereospecificity of ketoreductase domains of the 6-deoxyerythronolide B synthase. *Journal of the American Chemical Society*, **2007**, 129, 13758-69	16.4	75
154	Gain of Function Mutagenesis of the Erythromycin Polyketide Synthase. 2. Engineered Biosynthesis of an Eight-Membered Ring Tetraketide Lactone. *Journal of the American Chemical Society*, **1997**, 119, 11339-11340	16.4	74
153	Biosynthesis of Vitamin B6: Enzymatic Conversion of 1-Deoxy-d-xylulose-5-phosphate to Pyridoxol Phosphate. *Journal of the American Chemical Society*, **1999**, 121, 7722-7723	16.4	73
152	Biosynthesis of the sesquiterpene antibiotic albaflavenone in Streptomyces coelicolor. Mechanism and stereochemistry of the enzymatic formation of epi-isozizaene. *Journal of the American Chemical Society*, **2009**, 131, 6332-3	16.4	70
151	Gain-of-Function Mutagenesis of a Modular Polyketide Synthase. *Journal of the American Chemical Society*, **1997**, 119, 4309-4310	16.4	70
150	Polyketide double bond biosynthesis. Mechanistic analysis of the dehydratase-containing module 2 of the picromycin/methymycin polyketide synthase. *Journal of the American Chemical Society*, **2005**, 127, 17393-404	16.4	70
149	Crystal structure of albaflavenone monooxygenase containing a moonlighting terpene synthase active site. *Journal of Biological Chemistry*, **2009**, 284, 36711-36719	5.4	69
148	The biochemical basis for stereochemical control in polyketide biosynthesis. *Journal of the American Chemical Society*, **2009**, 131, 18501-11	16.4	69
147	Molecular recognition between ketosynthase and acyl carrier protein domains of the 6-deoxyerythronolide B synthase. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 22066-71	11.5	68
146	Aristolochene biosynthesis. Stereochemistry of the deprotonation steps in the enzymatic cyclization of farnesyl pyrophosphate. *Journal of the American Chemical Society*, **1990**, 112, 3209-3210	16.4	67
145	[44] Monoterpene and sesquiterpene cyclases. *Methods in Enzymology*, **1985**, 110, 383-405	1.7	67
144	Isotopically sensitive branching in the formation of cyclic monoterpenes: proof that (-)-alpha-pinene and (-)-beta-pinene are synthesized by the same monoterpene cyclase via deprotonation of a common intermediate. *Biochemistry*, **1987**, 26, 5383-9	3.2	66

143	Structure and mechanism of the trans-acting acyltransferase from the disorazole synthase. *Biochemistry*, **2011**, 50, 6539-48	3.2	64
142	Structure-based dissociation of a type I polyketide synthase module. *Chemistry and Biology*, **2007**, 14, 784-92		64
141	Genome mining in Streptomyces clavuligerus: expression and biochemical characterization of two new cryptic sesquiterpene synthases. *Chemistry and Biology*, **2011**, 18, 32-7		63
140	Pre-steady-state kinetic analysis of the trichodiene synthase reaction pathway. *Biochemistry*, **1997**, 36, 8332-9	3.2	63
139	X-ray crystallographic studies of substrate binding to aristolochene synthase suggest a metal ion binding sequence for catalysis. *Journal of Biological Chemistry*, **2008**, 283, 15431-9	5.4	63
138	Mechanistic analysis of acyl transferase domain exchange in polyketide synthase modules. *Journal of the American Chemical Society*, **2003**, 125, 5366-74	16.4	63
137	Structural and mechanistic analysis of trichodiene synthase using site-directed mutagenesis: probing the catalytic function of tyrosine-295 and the asparagine-225/serine-229/glutamate-233-Mg2+B motif. *Archives of Biochemistry and Biophysics*, **2008**, 469, 184-94	4.1	62
136	Analysis of the Molecular Recognition Features of Individual Modules Derived from the Erythromycin Polyketide Synthase. *Journal of the American Chemical Society*, **2000**, 122, 4847-4852	16.4	61
135	A functional chimeric modular polyketide synthase generated via domain replacement. *Chemistry and Biology*, **1996**, 3, 827-31		61
134	Understanding substrate specificity of polyketide synthase modules by generating hybrid multimodular synthases. *Journal of Biological Chemistry*, **2003**, 278, 42020-6	5.4	60
133	Aristolochene biosynthesis and enzymatic cyclization of farnesyl pyrophosphate. *Journal of the American Chemical Society*, **1989**, 111, 8914-8916	16.4	60
132	Programming of erythromycin biosynthesis by a modular polyketide synthase. *Journal of Biological Chemistry*, **2010**, 285, 27517-23	5.4	59
131	Reconstituting modular activity from separated domains of 6-deoxyerythronolide B synthase. *Biochemistry*, **2004**, 43, 13892-8	3.2	59
130	Expression, site-directed mutagenesis, and steady state kinetic analysis of the terminal thioesterase domain of the methymycin/picromycin polyketide synthase. *Biochemistry*, **2002**, 41, 12590-7	3.2	59
129	Trichodiene synthase. Identification of active site residues by site-directed mutagenesis. *Biochemistry*, **1995**, 34, 2480-8	3.2	59
128	Mechanism of the pyrophosphate migration in the enzymatic cyclization of geranyl and linalyl pyrophosphates to (+)- and (-)-bornyl pyrophosphates. *Biochemistry*, **1985**, 24, 7077-85	3.2	59
127	Genome mining in Streptomyces. Elucidation of the role of Baeyer-Villiger monooxygenases and non-heme iron-dependent dehydrogenase/oxygenases in the final steps of the biosynthesis of pentalenolactone and neopentalenolactone. *Biochemistry*, **2011**, 50, 1739-54	3.2	58
126	Stereospecificity of the dehydratase domain of the erythromycin polyketide synthase. *Journal of the American Chemical Society*, **2010**, 132, 14697-9	16.4	58

125	Polyether biosynthesis. 2. Origin of the oxygen atoms of monensin A. *Journal of the American Chemical Society*, **1982**, 104, 7274-7281	16.4	57
124	Characterization of a silent sesquiterpenoid biosynthetic pathway in Streptomyces avermitilis controlling epi-isozizaene albaflavenone biosynthesis and isolation of a new oxidized epi-isozizaene metabolite. *Microbial Biotechnology*, **2011**, 4, 184-91	6.3	56
123	Geosmin biosynthesis. Mechanism of the fragmentation-rearrangement in the conversion of germacradienol to geosmin. *Journal of the American Chemical Society*, **2008**, 130, 428-9	16.4	56
122	Macrolide biosynthesis. 7. Incorporation of polyketide chain elongation intermediates into methymycin. *Journal of the American Chemical Society*, **1993**, 115, 522-526	16.4	55
121	Genome mining in Streptomyces avermitilis: A biochemical Baeyer-Villiger reaction and discovery of a new branch of the pentalenolactone family tree. *Biochemistry*, **2009**, 48, 6431-40	3.2	54
120	Aristolochene synthase: purification, molecular cloning, high-level expression in Escherichia coli, and characterization of the Aspergillus terreus cyclase. *Archives of Biochemistry and Biophysics*, **2000**, 376, 354-64	4.1	54
119	Molecular recognition of the substrate diphosphate group governs product diversity in trichodiene synthase mutants. *Biochemistry*, **2005**, 44, 6153-63	3.2	53
118	In vitro reconstitution and analysis of the 6-deoxyerythronolide B synthase. *Journal of the American Chemical Society*, **2013**, 135, 16809-12	16.4	52
117	Trichodiene synthase. Synergistic inhibition by inorganic pyrophosphate and aza analogs of the bisabolyl cation.. *Journal of Organic Chemistry*, **1992**, 57, 3454-3462	4.2	52
116	Enzymic cyclization of geranyl pyrophosphate to bornyl pyrophosphate. Role of the pyrophosphate moiety. *Journal of the American Chemical Society*, **1982**, 104, 5831-5833	16.4	52
115	Novel terpenes generated by heterologous expression of bacterial terpene synthase genes in an engineered Streptomyces host. *Journal of Antibiotics*, **2015**, 68, 385-94	3.7	51
114	Genome mining in streptomyces. Discovery of an unprecedented P450-catalyzed oxidative rearrangement that is the final step in the biosynthesis of pentalenolactone. *Journal of the American Chemical Society*, **2011**, 133, 2128-31	16.4	51
113	Identification of NanE as the thioesterase for polyether chain release in nanchangmycin biosynthesis. *Chemistry and Biology*, **2006**, 13, 945-55		51
112	Mechanism and stereochemistry of the germacradienol/germacrene D synthase of Streptomyces coelicolor A3(2). *Journal of the American Chemical Society*, **2004**, 126, 2678-9	16.4	51
111	Exploring biosynthetic diversity with trichodiene synthase. *Archives of Biochemistry and Biophysics*, **2007**, 466, 260-6	4.1	50
110	Aristolochene Synthase. Elucidation of the Cryptic Germacrene A Synthase Activity Using the Anomalous Substrate Dihydrofarnesyl Diphosphate. *Journal of the American Chemical Society*, **1996**, 118, 10037-10040	16.4	50
109	Trichodiene biosynthesis and the role of nerolidyl pyrophosphate in the enzymic cyclization of farnesyl pyrophosphate. *Journal of the American Chemical Society*, **1988**, 110, 6865-6870	16.4	50
108	Kinetic analysis of Escherichia coli 2-C-methyl-D-erythritol-4-phosphate cytidyltransferase, wild type and mutants, reveals roles of active site amino acids. *Biochemistry*, **2004**, 43, 12189-97	3.2	48

107	Pentalenene biosynthesis and the enzymic cyclization of farnesyl pyrophosphate. *Journal of the American Chemical Society*, **1983**, 105, 122-124	16.4	48
106	Pentalenolactone biosynthesis. Molecular cloning and assignment of biochemical function to PtlI, a cytochrome P450 of Streptomyces avermitilis. *Journal of the American Chemical Society*, **2006**, 128, 13036-7	16.4	47
105	Precursor-directed biosynthesis: biochemical basis of the remarkable selectivity of the erythromycin polyketide synthase toward unsaturated triketides. *Chemistry and Biology*, **2002**, 9, 131-42		47
104	Role of arginine-304 in the diphosphate-triggered active site closure mechanism of trichodiene synthase. *Biochemistry*, **2005**, 44, 12719-27	3.2	46
103	Remarkably broad substrate specificity of a modular polyketide synthase in a cell-free system. *Journal of the American Chemical Society*, **1995**, 117, 11373-11374	16.4	46
102	Epicubenol Synthase and the Stereochemistry of the Enzymic Cyclization of Farnesyl and Nerolidyl Diphosphate. *Journal of the American Chemical Society*, **1995**, 117, 5602-5603	16.4	46
101	Isolation and characterization of 10-deoxymethynolide produced by Streptomyces venezuelae. *Journal of Antibiotics*, **1992**, 45, 1981-2	3.7	46
100	Trichodiene biosynthesis and the enzymic cyclization of farnesyl pyrophosphate. *Journal of the American Chemical Society*, **1981**, 103, 2136-2138	16.4	46
99	Purification and characterization of bimodular and trimodular derivatives of the erythromycin polyketide synthase. *Biochemistry*, **1997**, 36, 1846-51	3.2	45
98	Substrate specificity of the loading didomain of the erythromycin polyketide synthase. *Biochemistry* , **2000**, 39, 10514-20	3.2	45
97	Mechanistic insights from the binding of substrate and carbocation intermediate analogues to aristolochene synthase. *Biochemistry*, **2013**, 52, 5441-53	3.2	44
96	Biosynthesis of Vitamin B6: The Oxidation of 4-(Phosphohydroxy)-l-threonine by PdxA. *Journal of the American Chemical Society*, **1998**, 120, 1936-1937	16.4	44
95	Pentalenene Synthase. Histidine-309 Is Not Required for Catalytic Activity. *Journal of the American Chemical Society*, **1999**, 121, 591-592	16.4	44
94	Reprogramming the chemodiversity of terpenoid cyclization by remolding the active site contour of epi-isozizaene synthase. *Biochemistry*, **2014**, 53, 1155-68	3.2	43
93	Structure and stereospecificity of the dehydratase domain from the terminal module of the rifamycin polyketide synthase. *Biochemistry*, **2013**, 52, 8916-28	3.2	43
92	Functional orientation of the acyltransferase domain in a module of the erythromycin polyketide synthase. *Biochemistry*, **1998**, 37, 2524-8	3.2	43
91	Trichodiene Synthase. Enzymatic Formation of Multiple Sesquiterpenes by Alteration of the Cyclase Active Site. *Journal of the American Chemical Society*, **1996**, 118, 1563-1564	16.4	43
90	Erythromycin Biosynthesis: The Ketoreductase Domains Catalyze the Stereospecific Transfer of the 4-pro-S Hydride of NADPH. *Journal of the American Chemical Society*, **1998**, 120, 3267-3268	16.4	42

89	Precursor-directed biosynthesis of 16-membered macrolides by the erythromycin polyketide synthase. *Journal of the American Chemical Society*, **2001**, 123, 2495-502	16.4	41
88	Trichodiene synthase. Substrate specificity and inhibition. *Biochemistry*, **1995**, 34, 2471-9	3.2	41
87	Quantitative analysis of loading and extender acyltransferases of modular polyketide synthases. *Biochemistry*, **2003**, 42, 200-7	3.2	40
86	Protein-Protein Interactions, Not Substrate Recognition, Dominate the Turnover of Chimeric Assembly Line Polyketide Synthases. *Journal of Biological Chemistry*, **2016**, 291, 16404-15	5.4	40
85	Structure and Function of Fusicoccadiene Synthase, a Hexameric Bifunctional Diterpene Synthase. *ACS Chemical Biology*, **2016**, 11, 889-99	4.9	39
84	Comparative analysis of the substrate specificity of trans- versus cis-acyltransferases of assembly line polyketide synthases. *Biochemistry*, **2014**, 53, 3796-806	3.2	39
83	Stereospecificity of ketoreductase domains 1 and 2 of the tylactone modular polyketide synthase. *Journal of the American Chemical Society*, **2008**, 130, 11598-9	16.4	39
82	Mechanism of thioesterase-catalyzed chain release in the biosynthesis of the polyether antibiotic nanchangmycin. *Chemistry and Biology*, **2008**, 15, 449-58		39
81	Molecular recognition of diketide substrates by a beta-ketoacyl-acyl carrier protein synthase domain within a bimodular polyketide synthase. *Chemistry and Biology*, **1997**, 4, 757-66		38
80	Molecular cloning, expression and characterization of the first three genes in the mevalonate-independent isoprenoid pathway in Streptomyces coelicolor. *Bioorganic and Medicinal Chemistry*, **2001**, 9, 1467-77	3.4	38
79	High level expression of Ricinus communis casbene synthase in Escherichia coli and characterization of the recombinant enzyme. *Archives of Biochemistry and Biophysics*, **1996**, 336, 283-9	4.1	38
78	Biochemical analysis of the substrate specificity of the beta-ketoacyl-acyl carrier protein synthase domain of module 2 of the erythromycin polyketide synthase. *Biochemistry*, **2004**, 43, 16301-10	3.2	37
77	Enhancing the atom economy of polyketide biosynthetic processes through metabolic engineering. *Biotechnology Progress*, **2001**, 17, 612-7	2.8	37
76	Inhibition of glyceraldehyde-3-phosphate dehydrogenase by pentalenolactone: kinetic and mechanistic studies. *Archives of Biochemistry and Biophysics*, **1989**, 270, 50-61	4.1	37
75	Mechanism and stereospecificity of a fully saturating polyketide synthase module: nanchangmycin synthase module 2 and its dehydratase domain. *Journal of the American Chemical Society*, **2010**, 132, 14694-6	16.4	36
74	Precursor-directed biosynthesis of 12-ethyl erythromycin. *Bioorganic and Medicinal Chemistry*, **1998**, 6, 1171-7	3.4	36
73	Epicubenol synthase and the enzymic cyclization of farnesyl diphosphate. *Journal of the American Chemical Society*, **1993**, 115, 8103-8106	16.4	36
72	Exploring the Influence of Domain Architecture on the Catalytic Function of Diterpene Synthases. *Biochemistry*, **2017**, 56, 2010-2023	3.2	35

71	Identification of (8S,9S,10S)-8,10-dimethyl-1-octalin, a key intermediate in the biosynthesis of geosmin in bacteria. *Journal of the American Chemical Society*, **2008**, 130, 430-1	16.4	34
70	Intermodular communication in modular polyketide synthases: structural and mutational analysis of linker mediated protein-protein recognition. *Journal of the American Chemical Society*, **2003**, 125, 4097-102	16.4	34
69	Diversity and analysis of bacterial terpene synthases. *Methods in Enzymology*, **2012**, 515, 123-62	1.7	33
68	Pentalenic acid is a shunt metabolite in the biosynthesis of the pentalenolactone family of metabolites: hydroxylation of 1-deoxypentalenic acid mediated by CYP105D7 (SAV_7469) of Streptomyces avermitilis. *Journal of Antibiotics*, **2011**, 64, 65-71	3.7	33
67	Pentalenolactone biosynthesis. Molecular cloning and assignment of biochemical function to PtlH, a non-heme iron dioxygenase of Streptomyces avermitilis. *Journal of the American Chemical Society*, **2006**, 128, 6566-7	16.4	33
66	Erythromycin biosynthesis. The 4-pro-S hydride of NADPH is utilized for ketoreduction by both module 5 and module 6 of the 6-deoxyerythronolide B synthase. *Bioorganic and Medicinal Chemistry Letters*, **2001**, 11, 1477-9	2.9	33
65	Isolation of (-)-gamma-cadinene and aristolochene from Aspergillus terreus. *Journal of Antibiotics*, **1987**, 40, 1331-4	3.7	33
64	A Turnstile Mechanism for the Controlled Growth of Biosynthetic Intermediates on Assembly Line Polyketide Synthases. *ACS Central Science*, **2016**, 2, 14-20	16.8	33
63	Structure of 2-methylisoborneol synthase from Streptomyces coelicolor and implications for the cyclization of a noncanonical C-methylated monoterpenoid substrate. *Biochemistry*, **2012**, 51, 3011-20	3.2	32
62	Crystal structure of Escherichia coli PdxA, an enzyme involved in the pyridoxal phosphate biosynthesis pathway. *Journal of Biological Chemistry*, **2003**, 278, 43682-90	5.4	31
61	Enzymatic Formation of Isochamigrene, a Novel Sesquiterpene, by Alteration of the Aspartate-Rich Region of Trichodiene Synthase. *Journal of the American Chemical Society*, **1996**, 118, 8499-8500	16.4	31
60	The enzymology of polyether biosynthesis. *Methods in Enzymology*, **2009**, 459, 187-214	1.7	30
59	Macrolactonization to 10-deoxymethynolide catalyzed by the recombinant thioesterase of the picromycin/methymycin polyketide synthase. *Bioorganic and Medicinal Chemistry Letters*, **2006**, 16, 391-4	2.9	30
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