

Emily Balskus

List of Publications by Year in descending order

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99
papers

8,125
citations

66234

42
h-index

53109

85
g-index

126
all docs

126
docs citations

126
times ranked

10113
citing authors

#	ARTICLE	IF	CITATIONS
1	Minimum Information about a Biosynthetic Gene cluster. <i>Nature Chemical Biology</i> , 2015, 11, 625-631.	3.9	715
2	Chemical transformation of xenobiotics by the human gut microbiota. <i>Science</i> , 2017, 356, .	6.0	657
3	Predicting and Manipulating Cardiac Drug Inactivation by the Human Gut Bacterium <i>Eggerthella lenta</i> . <i>Science</i> , 2013, 341, 295-298.	6.0	536
4	Microbial conversion of choline to trimethylamine requires a glycy radical enzyme. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 21307-21312.	3.3	534
5	Discovery and inhibition of an interspecies gut bacterial pathway for Levodopa metabolism. <i>Science</i> , 2019, 364, .	6.0	431
6	The human gut bacterial genotoxin colibactin alkylates DNA. <i>Science</i> , 2019, 363, .	6.0	389
7	The Genetic and Molecular Basis for Sunscreen Biosynthesis in Cyanobacteria. <i>Science</i> , 2010, 329, 1653-1656.	6.0	315
8	Trimethylamine N-Oxide Binds and Activates PERK to Promote Metabolic Dysfunction. <i>Cell Metabolism</i> , 2019, 30, 1141-1151.e5.	7.2	215
9	Characterization and Detection of a Widely Distributed Gene Cluster That Predicts Anaerobic Choline Utilization by Human Gut Bacteria. <i>MBio</i> , 2015, 6, .	1.8	173
10	A Prodrug Resistance Mechanism Is Involved in Colibactin Biosynthesis and Cytotoxicity. <i>Journal of the American Chemical Society</i> , 2013, 135, 3359-3362.	6.6	158
11	Cholesterol Metabolism by Uncultured Human Gut Bacteria Influences Host Cholesterol Level. <i>Cell Host and Microbe</i> , 2020, 28, 245-257.e6.	5.1	151
12	Metabolic, Epigenetic, and Transgenerational Effects of Gut Bacterial Choline Consumption. <i>Cell Host and Microbe</i> , 2017, 22, 279-290.e7.	5.1	144
13	$\hat{\pm}$, $\hat{2}$ -Unsaturated $\hat{2}$ -Silyl Imide Substrates for Catalytic, Enantioselective Conjugate Additions: A Total Synthesis of (+)-Lactacystin and the Discovery of a New Proteasome Inhibitor. <i>Journal of the American Chemical Society</i> , 2006, 128, 6810-6812.	6.6	140
14	Mechanistic insight into digoxin inactivation by <i>Eggerthella lenta</i> augments our understanding of its pharmacokinetics. <i>Gut Microbes</i> , 2014, 5, 233-238.	4.3	139
15	Heteroatom-Heteroatom Bond Formation in Natural Product Biosynthesis. <i>Chemical Reviews</i> , 2017, 117, 5784-5863.	23.0	131
16	A prominent glycy radical enzyme in human gut microbiomes metabolizes <i>trans</i> -4-hydroxy- <i>l</i> -proline. <i>Science</i> , 2017, 355, .	6.0	126
17	Investigating the Initial Steps in the Biosynthesis of Cyanobacterial Sunscreen Scytonemin. <i>Journal of the American Chemical Society</i> , 2008, 130, 15260-15261.	6.6	123
18	A glycy radical enzyme enables hydrogen sulfide production by the human intestinal bacterium <i>Bilophila wadsworthia</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 3171-3176.	3.3	118

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19	Exploring and Understanding the Biochemical Diversity of the Human Microbiota. <i>Cell Chemical Biology</i> , 2016, 23, 18-30.	2.5	115
20	An N-nitrosating metalloenzyme constructs the pharmacophore of streptozotocin. <i>Nature</i> , 2019, 566, 94-99.	13.7	108
21	Characterization of Choline Trimethylamine-Lyase Expands the Chemistry of Glycyl Radical Enzymes. <i>ACS Chemical Biology</i> , 2014, 9, 1408-1413.	1.6	103
22	Asymmetric Catalysis of the Transannular Diels-Alder Reaction. <i>Science</i> , 2007, 317, 1736-1740.	6.0	100
23	Discovery and characterization of a prevalent human gut bacterial enzyme sufficient for the inactivation of a family of plant toxins. <i>ELife</i> , 2018, 7, .	2.8	93
24	Colibactin: understanding an elusive gut bacterial genotoxin. <i>Natural Product Reports</i> , 2015, 32, 1534-1540.	5.2	87
25	An Enzymatic Cyclopentyl[<i>b</i>]indole Formation Involved in Scytonemin Biosynthesis. <i>Journal of the American Chemical Society</i> , 2009, 131, 14648-14649.	6.6	79
26	Opportunities for merging chemical and biological synthesis. <i>Current Opinion in Biotechnology</i> , 2014, 30, 1-8.	3.3	77
27	Interfacing Microbial Styrene Production with a Biocompatible Cyclopropanation Reaction. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 7106-7109.	7.2	75
28	A new strategy for aromatic ring alkylation in cylindrocyclophane biosynthesis. <i>Nature Chemical Biology</i> , 2017, 13, 916-921.	3.9	71
29	Cylindrocyclophane Biosynthesis Involves Functionalization of an Unactivated Carbon Center. <i>Journal of the American Chemical Society</i> , 2012, 134, 18518-18521.	6.6	67
30	Natural product discovery from the human microbiome. <i>Journal of Biological Chemistry</i> , 2017, 292, 8546-8552.	1.6	66
31	Gut bacterial phospholipase Ds support disease-associated metabolism by generating choline. <i>Nature Microbiology</i> , 2019, 4, 155-163.	5.9	65
32	The biosynthesis of cyanobacterial sunscreen scytonemin in intertidal microbial mat communities. <i>FEMS Microbiology Ecology</i> , 2011, 77, 322-332.	1.3	64
33	A Biocompatible Alkene Hydrogenation Merges Organic Synthesis with Microbial Metabolism. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 7785-7788.	7.2	64
34	Isolation of a Metabolite from the <i>pks</i> Island Provides Insights into Colibactin Biosynthesis and Activity. <i>Organic Letters</i> , 2015, 17, 1545-1548.	2.4	61
35	Designer Micelles Accelerate Flux Through Engineered Metabolism in <i>E. coli</i> and Support Biocompatible Chemistry. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 6023-6027.	7.2	60
36	Metabolic functions of the human gut microbiota: the role of metalloenzymes. <i>Natural Product Reports</i> , 2019, 36, 593-625.	5.2	59

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37	Colibactin assembly line enzymes use S-adenosylmethionine to build a cyclopropane ring. <i>Nature Chemical Biology</i> , 2017, 13, 1063-1065.	3.9	57
38	Characterization of Polyketide Synthase Machinery from the <i>pks</i> Island Facilitates Isolation of a Candidate Precolibactin. <i>ACS Chemical Biology</i> , 2016, 11, 1287-1295.	1.6	56
39	Discovery of the lomaiviticin biosynthetic gene cluster in <i>Salinispora pacifica</i> . <i>Tetrahedron</i> , 2014, 70, 4156-4164.	1.0	55
40	Molecular Basis of C-N Bond Cleavage by the Glycyl Radical Enzyme Choline Trimethylamine-Lyase. <i>Cell Chemical Biology</i> , 2016, 23, 1206-1216.	2.5	54
41	Glutamic acid is a carrier for hydrazine during the biosyntheses of fosfazinomycin and kinamycin. <i>Nature Communications</i> , 2018, 9, 3687.	5.8	54
42	Discovery of a Diazo-Forming Enzyme in Cremeomycin Biosynthesis. <i>Journal of Organic Chemistry</i> , 2018, 83, 7539-7546.	1.7	52
43	Reactivity of an Unusual Amidase May Explain Colibactin's DNA Cross-Linking Activity. <i>Journal of the American Chemical Society</i> , 2019, 141, 11489-11496.	6.6	46
44	The bacterial toxin colibactin triggers prophage induction. <i>Nature</i> , 2022, 603, 315-320.	13.7	46
45	Chemistry, bioactivity and biosynthesis of cyanobacterial alkylresorcinols. <i>Natural Product Reports</i> , 2019, 36, 1437-1461.	5.2	45
46	Biosynthesis-Assisted Structural Elucidation of the Bartolosides, Chlorinated Aromatic Glycolipids from Cyanobacteria. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 11063-11067.	7.2	43
47	Structural Analysis of Spiro ² -Lactone Proteasome Inhibitors. <i>Journal of the American Chemical Society</i> , 2008, 130, 14981-14983.	6.6	40
48	A widely distributed metalloenzyme class enables gut microbial metabolism of host- and diet-derived catechols. <i>ELife</i> , 2020, 9, .	2.8	40
49	Structure-Guided Identification of a Small Molecule That Inhibits Anaerobic Choline Metabolism by Human Gut Bacteria. <i>Journal of the American Chemical Society</i> , 2019, 141, 33-37.	6.6	39
50	A Genomic Toolkit for the Mechanistic Dissection of Intractable Human Gut Bacteria. <i>Cell Host and Microbe</i> , 2020, 27, 1001-1013.e9.	5.1	39
51	Biocatalytic Friedel-Crafts Alkylation Using a Promiscuous Biosynthetic Enzyme. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 3151-3155.	7.2	37
52	Characterization of 1,2-Propanediol Dehydratases Reveals Distinct Mechanisms for B ₁₂ -Dependent and Glycyl Radical Enzymes. <i>Biochemistry</i> , 2018, 57, 3222-3226.	1.2	35
53	A Peroxodiiron(III/III) Intermediate Mediating Both N-Hydroxylation Steps in Biosynthesis of the N-Nitrosoarene Pharmacophore of Streptozotocin by the Multi-domain Metalloenzyme SznF. <i>Journal of the American Chemical Society</i> , 2020, 142, 11818-11828.	6.6	35
54	The Cremeomycin Biosynthetic Gene Cluster Encodes a Pathway for Diazo Formation. <i>ChemBioChem</i> , 2015, 16, 2172-2175.	1.3	34

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55	The Human Microbiota, Infectious Disease, and Global Health: Challenges and Opportunities. ACS Infectious Diseases, 2018, 4, 14-26.	1.8	34
56	Rescuing Auxotrophic Microorganisms with Nonenzymatic Chemistry. Angewandte Chemie - International Edition, 2013, 52, 11800-11803.	7.2	32
57	Cysteine dependence of <i>Lactobacillus iners</i> is a potential therapeutic target for vaginal microbiota modulation. Nature Microbiology, 2022, 7, 434-450.	5.9	32
58	Structure and assembly of the diiron cofactor in the heme-oxygenase-like domain of the <i>N</i> -nitrosourea-producing enzyme SznF. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	31
59	Anaerobic 4-hydroxyproline utilization: Discovery of a new glycol radical enzyme in the human gut microbiome uncovers a widespread microbial metabolic activity. Gut Microbes, 2018, 9, 1-16.	4.3	30
60	Elucidation of an anaerobic pathway for metabolism of <i>l</i> -carnitine-derived β -butyrobetaine to trimethylamine in human gut bacteria. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	30
61	Assembly line termination in cylindrocyclophane biosynthesis: discovery of an editing type II thioesterase domain in a type I polyketide synthase. Chemical Science, 2015, 6, 3816-3822.	3.7	29
62	Using non-enzymatic chemistry to influence microbial metabolism. Current Opinion in Chemical Biology, 2015, 25, 71-79.	2.8	28
63	The <i>l</i> -Alanosine Gene Cluster Encodes a Pathway for Diazeniumdiolate Biosynthesis. ChemBioChem, 2020, 21, 1155-1160.	1.3	28
64	Lomaiviticin Biosynthesis Employs a New Strategy for Starter Unit Generation. Organic Letters, 2014, 16, 640-643.	2.4	27
65	Interfacing Microbial Styrene Production with a Biocompatible Cyclopropanation Reaction. Angewandte Chemie, 2015, 127, 7212-7215.	1.6	26
66	Engineering chemical interactions in microbial communities. Chemical Society Reviews, 2018, 47, 1705-1729.	18.7	25
67	Biocatalytic Friedel-Crafts Alkylation Using a Promiscuous Biosynthetic Enzyme. Angewandte Chemie, 2019, 131, 3183-3187.	1.6	25
68	Production of Stealthin C Involves an <i>S</i> -N-Type Smiles Rearrangement. Journal of the American Chemical Society, 2017, 139, 2864-2867.	6.6	24
69	Designer Micelles Accelerate Flux Through Engineered Metabolism in <i>E. coli</i> and Support Biocompatible Chemistry. Angewandte Chemie, 2016, 128, 6127-6131.	1.6	22
70	Deciphering Human Gut Microbiota-Nutrient Interactions: A Role for Biochemistry. Biochemistry, 2018, 57, 2567-2577.	1.2	19
71	Deciphering Human Microbiota-Host Chemical Interactions. ACS Central Science, 2021, 7, 20-29.	5.3	19
72	Molecular basis for catabolism of the abundant metabolite trans-4-hydroxy-L-proline by a microbial glycol radical enzyme. ELife, 2020, 9, .	2.8	16

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73	Discovery of a Cyclic Choline Analog That Inhibits Anaerobic Choline Metabolism by Human Gut Bacteria. <i>ACS Medicinal Chemistry Letters</i> , 2020, 11, 1980-1985.	1.3	13
74	Extension of Diagnostic Fragmentation Filtering for Automated Discovery in DNA Adductomics. <i>Analytical Chemistry</i> , 2021, 93, 5754-5762.	3.2	11
75	Molecular basis of C-S bond cleavage in the glycyl radical enzyme isethionate sulfite-lyase. <i>Cell Chemical Biology</i> , 2021, 28, 1333-1346.e7.	2.5	11
76	Using Chemical Knowledge to Uncover New Biological Function: Discovery of the Cylindrocyclophane Biosynthetic Pathway. <i>Synlett</i> , 2013, 24, 1464-1470.	1.0	10
77	Discovering radical-dependent enzymes in the human gut microbiota. <i>Current Opinion in Chemical Biology</i> , 2018, 47, 86-93.	2.8	10
78	<i>In Vitro</i> Characterization of the Colibactin-Activating Peptidase ClbP Enables Development of a Fluorogenic Activity Probe. <i>ACS Chemical Biology</i> , 2019, 14, 1097-1101.	1.6	10
79	The Plot Thickens: Diet Microbe Interactions May Modulate Thrombosis Risk. <i>Cell Metabolism</i> , 2016, 23, 573-575.	7.2	9
80	Discovery of small molecule protease inhibitors by investigating a widespread human gut bacterial biosynthetic pathway. <i>Tetrahedron</i> , 2018, 74, 3215-3230.	1.0	9
81	Purification and Characterization of the Choline Trimethylamine-Lyase (CutC)-Activating Protein CutD. <i>Methods in Enzymology</i> , 2018, 606, 73-94.	0.4	8
82	Leveraging Microbial Genomes and Genomic Context for Chemical Discovery. <i>Accounts of Chemical Research</i> , 2021, 54, 2788-2797.	7.6	8
83	The Stickland Reaction Precursor <i>trans</i> -4-Hydroxy- <i>l</i> -Proline Differentially Impacts the Metabolism of <i>Clostridioides difficile</i> and Commensal <i>Clostridia</i> . <i>MSphere</i> , 2022, 7, e0092621.	1.3	8
84	Discovery of C-C bond-forming and bond-breaking radical enzymes: enabling transformations for metabolic engineering. <i>Current Opinion in Biotechnology</i> , 2020, 65, 94-101.	3.3	7
85	Structural basis for an unprecedented enzymatic alkylation in cylindrocyclophane biosynthesis. <i>ELife</i> , 2022, 11, .	2.8	7
86	Emerging Chemical Diversity and Potential Applications of Enzymes in the DMSO Reductase Superfamily. <i>Annual Review of Biochemistry</i> , 2022, 91, 475-504.	5.0	6
87	Sponge symbionts play defense. <i>Nature Chemical Biology</i> , 2014, 10, 611-612.	3.9	5
88	Shedding light on sunscreen biosynthesis in zebrafish. <i>ELife</i> , 2015, 4, .	2.8	5
89	The Human Microbiome. <i>ACS Infectious Diseases</i> , 2018, 4, 1-2.	1.8	5
90	Distribution and diversity of dimetal-carboxylate halogenases in cyanobacteria. <i>BMC Genomics</i> , 2021, 22, 633.	1.2	5

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91	Gut Microbiota: Rational Manipulation of Gut Bacterial Metalloenzymes Provides Insights into Dysbiosis and Inflammation. <i>Biochemistry</i> , 2018, 57, 2291-2293.	1.2	3
92	The mysteries of macrocyclic colibactins. <i>Nature Chemistry</i> , 2019, 11, 867-869.	6.6	3
93	Addressing Infectious Disease Challenges by Investigating Microbiomes. <i>ACS Infectious Diseases</i> , 2016, 2, 453-455.	1.8	2
94	Mechanistic Studies of a Skatole-Forming Glycyl Radical Enzyme Suggest Reaction Initiation via Hydrogen Atom Transfer. <i>Journal of the American Chemical Society</i> , 2022, 144, 11110-11119.	6.6	2
95	Announcement of 2019 Keystone Symposia Conference: "Microbiome: Chemical Mechanisms and Biological Consequences". <i>MSystems</i> , 2018, 3, .	1.7	0
96	Radical Chemistry in the Human Gut: Discovery of Choline Trimethylamine-Lyase. <i>FASEB Journal</i> , 2015, 29, 575.15.	0.2	0
97	Interfacing Biocompatible Reactions with Engineered <i>Escherichia coli</i> . <i>Methods in Molecular Biology</i> , 2017, 1586, 409-421.	0.4	0
98	Chemical discovery in the microbial world. <i>FASEB Journal</i> , 2017, 31, 258.2.	0.2	0
99	Anaerobic 4-Hydroxyproline Metabolism by a Widespread Microbial Glycyl Radical Enzyme. <i>FASEB Journal</i> , 2018, 32, 534.16.	0.2	0