Sarah O'Connor

List of Publications by Year
in descending order

118	8,173	44069 48	53230 85
papers	citations	h-index	g-index
142	142	142	6638
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Phylogeny-Aware Chemoinformatic Analysis of Chemical Diversity in Lamiaceae Enables Iridoid Pathway Assembly and Discovery of Aucubin Synthase. Molecular Biology and Evolution, 2022, 39, .	8.9	4
2	Mechanism and Evolution of [4+2] Cyclases in Monoterpene Indole Alkaloid Biosynthesis. FASEB Journal, 2022, 36, .	0.5	0
3	Two biâ€functional cytochrome P450 CYP72 enzymes from olive (<i>Olea europaea</i>) catalyze the oxidative Câ€C bond cleavage in the biosynthesis of secoxyâ€iridoids â€“ flavor and quality determinants in olive oil. New Phytologist, 2021, 229, 2288-2301.	7.3	17
4	Symbionts, Peptides, and (No) Iron: How Ants Defend Their Fungal Crop. ACS Central Science, 2021, 7, 225-227.	11.3	0
5	Early and Late Steps of Quinine Biosynthesis. Organic Letters, 2021, 23, 1793-1797.	4.6	20
6	The <i>Mitragyna speciosa</i> (Kratom) Genome: a resource for data-mining potent pharmaceuticals that impact human health. G3: Genes, Genomes, Genetics, 2021, 11, .	1.8	19
7	Improved virus-induced gene silencing allows discovery of a serpentine synthase gene in <i>Catharanthus roseus</i>. Plant Physiology, 2021, 187, 846-857.	4.8	20
8	Cell-Free Total Biosynthesis of Plant Terpene Natural Products Using an Orthogonal Cofactor Regeneration System. ACS Catalysis, 2021, 11, 9898-9903.	11.2	16
9	Metabolic engineering for plant natural products biosynthesis: new procedures, concrete achievements and remaining limits. Natural Product Reports, 2021, 38, 2145-2153.	10.3	48
10	Alternative splicing creates a pseudo-strictosidine Î²-<scp>d</scp>-glucosidase modulating alkaloid synthesis in <i>Catharanthus roseus</i>. Plant Physiology, 2021, 185, 836-856.	4.8	19
11	Tonoplast and Peroxisome Targeting of Î³-tocopherol N-methyltransferase Homologs Involved in the Synthesis of Monoterpene Indole Alkaloids. Plant and Cell Physiology, 2021, , .	3.1	0
12	Biosynthesis of Vinblastine. , 2020, , 642-685.		1
13	Beyond the semi-synthetic artemisinin: metabolic engineering of plant-derived anti-cancer drugs. Current Opinion in Biotechnology, 2020, 65, 17-24.	6.6	42
14	Synthesis of (âˆ')-Melodinine K: A Case Study of Efficiency in Natural Product Synthesis. Journal of Natural Products, 2020, 83, 2425-2433.	3.0	19
15	The evolutionary origins of the cat attractant nepetalactone in catnip. Science Advances, 2020, 6, eaba0721.	10.3	70
16	The Progesterone 5Î²-Reductase/Iridoid Synthase Family: A Catalytic Reservoir for Specialized Metabolism across Land Plants. ACS Chemical Biology, 2020, 15, 1780-1787.	3.4	15
17	Towards the Microbial Production of Plant-Derived Anticancer Drugs. Trends in Cancer, 2020, 6, 444-448.	7.4	38
18	Metabolomics Analysis Reveals Tissue-Specific Metabolite Compositions in Leaf Blade and Traps of Carnivorous Nepenthes Plants. International Journal of Molecular Sciences, 2020, 21, 4376.	4.1	13

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19	Structural basis of cycloaddition in biosynthesis of iboga and aspidosperma alkaloids. Nature Chemical Biology, 2020, 16, 383-386.	8.0	33
20	Identifying Missing Biosynthesis Enzymes of Plant Natural Products. Trends in Pharmacological Sciences, 2020, 41, 142-146.	8.7	37
21	Chlorinated Auxinsâ€”How Does Arabidopsis Thaliana Deal with Them?. International Journal of Molecular Sciences, 2020, 21, 2567.	4.1	7
22	Hairy root transformation of Brassica rapa with bacterial halogenase genes and regeneration to adult plants to modify production of indolic compounds. Phytochemistry, 2020, 175, 112371.	2.9	8
23	The complexity of intercellular localisation of alkaloids revealed by singleâ€cell metabolomics. New Phytologist, 2019, 224, 848-859.	7.3	65
24	Biosynthesis of an Anti-Addiction Agent from the Iboga Plant. Journal of the American Chemical Society, 2019, 141, 12979-12983.	13.7	39
25	Biocatalytic Strategies towards [4+2] Cycloadditions. Chemistry - A European Journal, 2019, 25, 6864-6877.	3.3	38
26	Frontispiece: Biocatalytic Strategies towards [4+2] Cycloadditions. Chemistry - A European Journal, 2019, 25, .	3.3	0
27	Uncoupled activation and cyclization in catmint reductive terpenoid biosynthesis. Nature Chemical Biology, 2019, 15, 71-79.	8.0	56
28	Gene Discovery in <i>Gelsemium</i> Highlights Conserved Gene Clusters in Monoterpene Indole Alkaloid Biosynthesis. ChemBioChem, 2019, 20, 83-87.	2.6	66
29	A Pressure Test to Make 10 Molecules in 90 Days: External Evaluation of Methods to Engineer Biology. Journal of the American Chemical Society, 2018, 140, 4302-4316.	13.7	118
30	A <scp>BAHD</scp> acyltransferase catalyzing 19â€<i>O</i>â€acetylation of tabersonine derivatives in roots of <i>Catharanthus roseus</i> enables combinatorial synthesis of monoterpene indole alkaloids. Plant Journal, 2018, 94, 469-484.	5.7	46
31	Discovery of a Shortâ€Chain Dehydrogenase from <i>Catharanthus roseus</i> that Produces a New Monoterpene Indole Alkaloid. ChemBioChem, 2018, 19, 940-948.	2.6	20
32	Missing enzymes in the biosynthesis of the anticancer drug vinblastine in Madagascar periwinkle. Science, 2018, 360, 1235-1239.	12.6	279
33	Identification of iridoid synthases from Nepeta species: Iridoid cyclization does not determine nepetalactone stereochemistry. Phytochemistry, 2018, 145, 48-56.	2.9	29
34	Phylogenomic Mining of the Mints Reveals Multiple Mechanisms Contributing to the Evolution of Chemical Diversity in Lamiaceae. Molecular Plant, 2018, 11, 1084-1096.	8.3	109
35	Sarpagan bridge enzyme has substrate-controlled cyclization and aromatization modes. Nature Chemical Biology, 2018, 14, 760-763.	8.0	50
36	Two Tabersonine 6,7-Epoxidases Initiate Lochnericine-Derived Alkaloid Biosynthesis in Catharanthus roseus. Plant Physiology, 2018, 177, 1473-1486.	4.8	34

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37	Cytochrome P450 and O-methyltransferase catalyze the final steps in the biosynthesis of the anti-addictive alkaloid ibogaine from Tabernanthe iboga. Journal of Biological Chemistry, 2018, 293, 13821-13833.	3.4	43
38	An NPF transporter exports a central monoterpene indole alkaloid intermediate from the vacuole. Nature Plants, 2017, 3, 16208.	9.3	123
39	Folivory elicits a strong defense reaction in Catharanthus roseus: metabolomic and transcriptomic analyses reveal distinct local and systemic responses. Scientific Reports, 2017, 7, 40453.	3.3	39
40	A three enzyme system to generate the Strychnos alkaloid scaffold from a central biosynthetic intermediate. Nature Communications, 2017, 8, 316.	12.8	117
41	Identification of Iridoid Glucoside Transporters in Catharanthus roseus. Plant and Cell Physiology, 2017, 58, 1507-1518.	3.1	39
42	Inverted stereocontrol of iridoid synthase in snapdragon. Journal of Biological Chemistry, 2017, 292, 14659-14667.	3.4	25
43	Strategies to Produce Chlorinated Indoleâ€3â€Acetic Acid and Indoleâ€3â€Acetic Acid Intermediates. ChemistrySelect, 2017, 2, 11148-11153.	1.5	4
44	Raising the BAR of specificity. Nature Plants, 2017, 3, 924-925.	9.3	1
45	Dual Catalytic Activity of a Cytochrome P450 Controls Bifurcation at a Metabolic Branch Point of Alkaloid Biosynthesis in <i>Rauwolfia serpentina</i>. Angewandte Chemie, 2017, 129, 9568-9572.	2.0	7
46	Dual Catalytic Activity of a Cytochrome P450 Controls Bifurcation at a Metabolic Branch Point of Alkaloid Biosynthesis in <i>Rauwolfia serpentina</i>. Angewandte Chemie - International Edition, 2017, 56, 9440-9444.	13.8	33
47	Differential iridoid production as revealed by a diversity panel of 84 cultivated and wild blueberry species. PLoS ONE, 2017, 12, e0179417.	2.5	21
48	New developments in engineering plant metabolic pathways. Current Opinion in Biotechnology, 2016, 42, 126-132.	6.6	83
49	Class II Cytochrome P450 Reductase Governs the Biosynthesis of Alkaloids. Plant Physiology, 2016, 172, 1563-1577.	4.8	44
50	Structural characterization of EasH (Aspergillus japonicus) â€" an oxidase involved in cycloclavine biosynthesis. Chemical Communications, 2016, 52, 14306-14309.	4.1	28
51	Structural investigation of heteroyohimbine alkaloid synthesis reveals active site elements that control stereoselectivity. Nature Communications, 2016, 7, 12116.	12.8	85
52	Biocatalysts from alkaloid producing plants. Current Opinion in Chemical Biology, 2016, 31, 22-30.	6.1	38
53	Identification and Characterization of the Iridoid Synthase Involved in Oleuropein Biosynthesis in Olive (Olea europaea) Fruits. Journal of Biological Chemistry, 2016, 291, 5542-5554.	3.4	74
54	Structural determinants of reductive terpene cyclization in iridoid biosynthesis. Nature Chemical Biology, 2016, 12, 6-8.	8.0	58

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55	Standards for plant synthetic biology: a common syntax for exchange of <scp>DNA</scp> parts. New Phytologist, 2015, 208, 13-19.	7.3	263
56	Halogenase Engineering for the Generation of New Natural Product Analogues. ChemBioChem, 2015, 16, 2129-2135.	2.6	36
57	Genomeâ€guided investigation of plant natural product biosynthesis. Plant Journal, 2015, 82, 680-692.	5.7	186
58	Iridoid Synthase Activity Is Common among the Plant Progesterone 5Î²-Reductase Family. Molecular Plant, 2015, 8, 136-152.	8.3	57
59	De novo production of the plant-derived alkaloid strictosidine in yeast. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 3205-3210.	7.1	373
60	Discovery and Reconstitution of the Cycloclavine Biosynthetic Pathwayâ€"Enzymatic Formation of a Cyclopropyl Group. Angewandte Chemie, 2015, 127, 5206-5210.	2.0	19
61	Discovery and Reconstitution of the Cycloclavine Biosynthetic Pathwayâ€"Enzymatic Formation of a Cyclopropyl Group. Angewandte Chemie - International Edition, 2015, 54, 5117-5121.	13.8	61
62	The bHLH transcription factor BIS1 controls the iridoid branch of the monoterpenoid indole alkaloid pathway in <i>Catharanthus roseus</i>. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8130-8135.	7.1	176
63	Discovery of a P450-catalyzed step in vindoline biosynthesis: a link between the aspidosperma and eburnamine alkaloids. Chemical Communications, 2015, 51, 7626-7628.	4.1	50
64	Unlocking the Diversity of Alkaloids in Catharanthus roseus: Nuclear Localization Suggests Metabolic Channeling in Secondary Metabolism. Chemistry and Biology, 2015, 22, 336-341.	6.0	103
65	Engineering of Secondary Metabolism. Annual Review of Genetics, 2015, 49, 71-94.	7.6	125
66	Fighting cancer while saving the mayapple. Science, 2015, 349, 1167-1168.	12.6	6
67	Characterization of a second secologanin synthase isoform producing both secologanin and secoxyloganin allows enhanced de novo assembly of a Catharanthus roseus transcriptome. BMC Genomics, 2015, 16, 619.	2.8	54
68	Conversion of Substrate Analogs Suggests a Michael Cyclization in Iridoid Biosynthesis. Chemistry and Biology, 2014, 21, 1452-1456.	6.0	34
69	Iridoid Synthase Activity Is Common among the Plant Progesterone 5Â-Reductase Family. Molecular Plant, 2014, , .	8.3	1
70	The important ergot alkaloid intermediate chanoclavine-I produced in the yeast Saccharomyces cerevisiae by the combined action of EasC and EasE from Aspergillus japonicus. Microbial Cell Factories, 2014, 13, 95.	4.0	34
71	Biosynthesis of the ergot alkaloids. Natural Product Reports, 2014, 31, 1328-1338.	10.3	81
72	Editorial overview: Growing the future: synthetic biology in plants. Current Opinion in Plant Biology, 2014, 19, iv-v.	7.1	3

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73	Recent progress in the metabolic engineering of alkaloids in plant systems. Current Opinion in Biotechnology, 2013, 24, 354-365.	6.6	86
74	Diversification of Monoterpene Indole Alkaloid Analogs through Cross-Coupling. Organic Letters, 2013, 15, 2850-2853.	4.6	69
75	A Pair of Tabersonine 16-Hydroxylases Initiates the Synthesis of Vindoline in an Organ-Dependent Manner in<i>Catharanthus roseus</i>Â Â Â. Plant Physiology, 2013, 163, 1792-1803.	4.8	97
76	An alternative route to cyclic terpenes by reductive cyclization in iridoid biosynthesis. Nature, 2012, 492, 138-142.	27.8	298
77	Plant Gene Clusters and Opiates. Science, 2012, 336, 1648-1649.	12.6	20
78	Redesign of a Dioxygenase in Morphine Biosynthesis. Chemistry and Biology, 2012, 19, 674-678.	6.0	23
79	Strategies for Engineering Plant Natural Products. Methods in Enzymology, 2012, 515, 189-206.	1.0	22
80	The impact of structural biology on alkaloid biosynthesis research. Natural Product Reports, 2012, 29, 1176.	10.3	21
81	Development of Transcriptomic Resources for Interrogating the Biosynthesis of Monoterpene Indole Alkaloids in Medicinal Plant Species. PLoS ONE, 2012, 7, e52506.	2.5	150
82	Biocatalytic production of tetrahydroisoquinolines. Tetrahedron Letters, 2012, 53, 1071-1074.	1.4	95
83	Reengineering a Tryptophan Halogenase To Preferentially Chlorinate a Direct Alkaloid Precursor. Journal of the American Chemical Society, 2011, 133, 19346-19349.	13.7	104
84	A virus-induced gene silencing approach to understanding alkaloid metabolism in Catharanthus roseus. Phytochemistry, 2011, 72, 1969-1977.	2.9	121
85	Ergot cluster-encoded catalase is required for synthesis of chanoclavine-I in Aspergillus fumigatus. Current Genetics, 2011, 57, 201-211.	1.7	48
86	The evolution of function in strictosidine synthaseâ€like proteins. Proteins: Structure, Function and Bioinformatics, 2011, 79, 3082-3098.	2.6	43
87	A Stereoselective Hydroxylation Step of Alkaloid Biosynthesis by a Unique Cytochrome P450 in Catharanthus roseus. Journal of Biological Chemistry, 2011, 286, 16751-16757.	3.4	124
88	Biocatalytic asymmetric formation of tetrahydro-Î²-carbolines. Tetrahedron Letters, 2010, 51, 4400-4402.	1.4	44
89	Integrating carbonâ€“halogen bond formation into medicinal plant metabolism. Nature, 2010, 468, 461-464.	27.8	204
90	Homolog of tocopherol <i>C</i> methyltransferases catalyzes <i>N</i> methylation in anticancer alkaloid biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 18793-18798.	7.1	94

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91	An Old Yellow Enzyme Gene Controls the Branch Point between <i>Aspergillus fumigatus</i> and <i>Claviceps purpurea</i> Ergot Alkaloid Pathways. Applied and Environmental Microbiology, 2010, 76, 3898-3903.	3.1	67
92	Controlling a Structural Branch Point in Ergot Alkaloid Biosynthesis. Journal of the American Chemical Society, 2010, 132, 12835-12837.	13.7	56
93	A Role for Old Yellow Enzyme in Ergot Alkaloid Biosynthesis. Journal of the American Chemical Society, 2010, 132, 1776-1777.	13.7	54
94	Silencing of tryptamine biosynthesis for production of nonnatural alkaloids in plant culture. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 13673-13678.	7.1	100
95	Synthesis and biochemical evaluation of des-vinyl secologanin aglycones with alternate stereochemistry. Tetrahedron Letters, 2009, 50, 7118-7120.	1.4	10
96	Metabolic reprogramming of periwinkle plant culture. Nature Chemical Biology, 2009, 5, 151-153.	8.0	109
97	Opportunities in metabolic engineering to facilitate scalable alkaloid production. Nature Chemical Biology, 2009, 5, 292-300.	8.0	122
98	Synthesis of 4-, 5-, 6-, and 7-azidotryptamines. Tetrahedron Letters, 2009, 50, 75-76.	1.4	18
99	Opportunities for enzyme engineering in natural product biosynthesis. Current Opinion in Chemical Biology, 2009, 13, 35-42.	6.1	28
100	Mechanistic advances in plant natural product enzymes. Current Opinion in Chemical Biology, 2009, 13, 492-498.	6.1	11
101	Aza-Tryptamine Substrates in Monoterpene Indole Alkaloid Biosynthesis. Chemistry and Biology, 2009, 16, 1225-1229.	6.0	24
102	Bypassing stereoselectivity in the early steps of alkaloid biosynthesis. Organic and Biomolecular Chemistry, 2009, 7, 4166.	2.8	7
103	Substrate specificity and diastereoselectivity of strictosidine glucosidase, a key enzyme in monoterpene indole alkaloid biosynthesis. Bioorganic and Medicinal Chemistry Letters, 2008, 18, 3095-3098.	2.2	19
104	Strictosidine Synthase:â€‰ Mechanism of a Pictetâ˘’Spengler Catalyzing Enzyme. Journal of the American Chemical Society, 2008, 130, 710-723.	13.7	190
105	Chemoselective derivatization of alkaloids in periwinkle. Chemical Communications, 2007, , 3249.	4.1	19
106	Rapid Identification of Enzyme Variants for Reengineered Alkaloid Biosynthesis in Periwinkle. Chemistry and Biology, 2007, 14, 888-897.	6.0	81
107	Directed Biosynthesis of Alkaloid Analogs in the Medicinal PlantCatharanthus roseus. Journal of the American Chemical Society, 2006, 128, 14276-14277.	13.7	84
108	Chemistry and biology of monoterpene indole alkaloid biosynthesis. Natural Product Reports, 2006, 23, 532.	10.3	861

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109	Cyclization of natural products. , 2006, 2, 511-512.		1
110	Substrate specificity of strictosidine synthase. Bioorganic and Medicinal Chemistry Letters, 2006, 16, 2475-2478.	2.2	83
111	Redesign of a Central Enzyme in Alkaloid Biosynthesis. Chemistry and Biology, 2006, 13, 1137-1141.	6.0	68
112	Semi-synthesis of secologanin analogues. Tetrahedron Letters, 2006, 47, 1563-1565.	1.4	12
113	Aureolic Acids. Chemistry and Biology, 2004, 11, 8-10.	6.0	1
114	Probing the Effect of the Outer Saccharide Residues ofN-Linked Glycans on Peptide Conformation. Journal of the American Chemical Society, 2001, 123, 6187-6188.	13.7	62
115	Effect of N-linked glycosylation on glycopeptide and glycoprotein structure. Current Opinion in Chemical Biology, 1999, 3, 643-649.	6.1	367
116	A molecular basis for glycosylation-induced conformational switching. Chemistry and Biology, 1998, 5, 427-437.	6.0	103
117	The conformational basis of asparagine-linked glycosylation. Pure and Applied Chemistry, 1998, 70, 33-40.	1.9	7
118	Directed Biosynthesis of New to Nature Alkaloids in a Heterologous Nicotiana benthamiana Expression Host. Frontiers in Plant Science, 0, 13, .	3.6	5