

John Shanklin

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

105
papers

6,316
citations

42
h-index

79
g-index

122
ext. papers

7,350
ext. citations

7.6
avg, IF

5.84
L-index

#	Paper	IF	Citations
105	AlphaFold Protein Structure Database for Sequence-Independent Molecular Replacement. <i>Crystals</i> , 2021 , 11, 1227	2.3	0
104	A consensus-based ensemble approach to improve transcriptome assembly. <i>BMC Bioinformatics</i> , 2021 , 22, 513	3.6	0
103	The Role of Sugar Signaling in Regulating Plant Fatty Acid Synthesis. <i>Frontiers in Plant Science</i> , 2021 , 12, 643843	6.2	2
102	Expression of a Bacterial Trehalose-6-phosphate Synthase otsA Increases Oil Accumulation in Plant Seeds and Vegetative Tissues. <i>Frontiers in Plant Science</i> , 2021 , 12, 656962	6.2	3
101	Mechanisms and functions of membrane lipid remodeling in plants. <i>Plant Journal</i> , 2021 , 107, 37-53	6.9	9
100	Structural basis for SARS-CoV-2 envelope protein recognition of human cell junction protein PALS1. <i>Nature Communications</i> , 2021 , 12, 3433	17.4	26
99	Arabidopsis SnRK1 negatively regulates phenylpropanoid metabolism via Kelch domain-containing F-box proteins. <i>New Phytologist</i> , 2021 , 229, 3345-3359	9.8	5
98	Biotin attachment domain-containing proteins mediate hydroxy fatty acid-dependent inhibition of acetyl CoA carboxylase. <i>Plant Physiology</i> , 2021 , 185, 892-901	6.6	5
97	Mobilizing Vacuolar Sugar Increases Vegetative Triacylglycerol Accumulation. <i>Frontiers in Plant Science</i> , 2021 , 12, 708902	6.2	2
96	Atomistic insight on structure and dynamics of spinach acyl carrier protein with substrate length. <i>Biophysical Journal</i> , 2021 , 120, 3841-3853	2.9	0
95	Hydrothermal pretreatment for valorization of genetically engineered bioenergy crop for lipid and cellulosic sugar recovery. <i>Bioresource Technology</i> , 2021 , 341, 125817	11	4
94	Rhodoxanthin synthase from honeysuckle; a membrane diiron enzyme catalyzes the multistep conversion of β -carotene to rhodoxanthin. <i>Science Advances</i> , 2020 , 6, eaay9226	14.3	5
93	Structural basis for Ca-dependent activation of a plant metacaspase. <i>Nature Communications</i> , 2020 , 11, 2249	17.4	17
92	A conserved evolutionary mechanism permits Δ^9 desaturation of very-long-chain fatty acyl lipids. <i>Journal of Biological Chemistry</i> , 2020 , 295, 11337-11345	5.4	2
91	Towards oilcane: Engineering hyperaccumulation of triacylglycerol into sugarcane stems. <i>GCB Bioenergy</i> , 2020 , 12, 476-490	5.6	30
90	Castor Stearoyl-ACP Desaturase Can Synthesize a Vicinal Diol by Dioxygenase Chemistry. <i>Plant Physiology</i> , 2020 , 182, 730-738	6.6	4
89	Solving a furan fatty acid biosynthesis puzzle. <i>Journal of Biological Chemistry</i> , 2020 , 295, 9802-9803	5.4	2

88	Metabolic and functional connections between cytoplasmic and chloroplast triacylglycerol storage. <i>Progress in Lipid Research</i> , 2020 , 80, 101069	14.3	13
87	Expression of a Lychee with an Enhances Cyclopropane Fatty Acid Accumulation in Camelina Seeds. <i>Plant Physiology</i> , 2019 , 180, 1351-1361	6.6	8
86	WRINKLED1 Regulates BIOTIN ATTACHMENT DOMAIN-CONTAINING Proteins that Inhibit Fatty Acid Synthesis. <i>Plant Physiology</i> , 2019 , 181, 55-62	6.6	14
85	Diversion of Carbon Flux from Sugars to Lipids Improves the Growth of an Arabidopsis Starchless Mutant. <i>Plants</i> , 2019 , 8,	4.5	8
84	Tissue-specific differences in metabolites and transcripts contribute to the heterogeneity of ricinoleic acid accumulation in <i>Ricinus communis</i> L. (castor) seeds. <i>Metabolomics</i> , 2019 , 15, 6	4.7	13
83	Biotin Attachment Domain-Containing Proteins Irreversibly Inhibit Acetyl CoA Carboxylase. <i>Plant Physiology</i> , 2018 , 177, 208-215	6.6	27
82	Identification of bottlenecks in the accumulation of cyclic fatty acids in camelina seed oil. <i>Plant Biotechnology Journal</i> , 2018 , 16, 926-938	11.6	23
81	Trehalose 6-Phosphate Positively Regulates Fatty Acid Synthesis by Stabilizing WRINKLED1. <i>Plant Cell</i> , 2018 , 30, 2616-2627	11.6	77
80	Two clusters of residues contribute to the activity and substrate specificity of Fm1, a bifunctional oleate and linoleate desaturase of fungal origin. <i>Journal of Biological Chemistry</i> , 2018 , 293, 19844-19853	5.4	8
79	Phosphorylation of WRINKLED1 by KIN10 Results in Its Proteasomal Degradation, Providing a Link between Energy Homeostasis and Lipid Biosynthesis. <i>Plant Cell</i> , 2017 , 29, 871-889	11.6	69
78	Sugar Potentiation of Fatty Acid and Triacylglycerol Accumulation. <i>Plant Physiology</i> , 2017 , 175, 696-707	6.6	23
77	A family of metal-dependent phosphatases implicated in metabolite damage-control. <i>Nature Chemical Biology</i> , 2016 , 12, 621-7	11.7	26
76	Amino Acid Change in an Orchid Desaturase Enables Mimicry of the Pollinator's Sex Pheromone. <i>Current Biology</i> , 2016 , 26, 1505-11	6.3	22
75	Triacylglycerol Metabolism, Function, and Accumulation in Plant Vegetative Tissues. <i>Annual Review of Plant Biology</i> , 2016 , 67, 179-206	30.7	124
74	50 years of Arabidopsis research: highlights and future directions. <i>New Phytologist</i> , 2016 , 209, 921-44	9.8	128
73	Metabolic engineering of sugarcane to accumulate energy-dense triacylglycerols in vegetative biomass. <i>Plant Biotechnology Journal</i> , 2016 , 14, 661-9	11.6	104
72	Cellular Organization of Triacylglycerol Biosynthesis in Microalgae. <i>Sub-Cellular Biochemistry</i> , 2016 , 86, 207-21	5.5	8
71	Production of long chain alcohols and alkanes upon coexpression of an acyl-ACP reductase and aldehyde-deformylating oxygenase with a bacterial type-I fatty acid synthase in <i>E. coli</i> . <i>Molecular BioSystems</i> , 2015 , 11, 2464-72		25

70	Half-of-the-Sites Reactivity of the Castor β -18:0-Acyl Carrier Protein Desaturase. <i>Plant Physiology</i> , 2015 , 169, 432-41	6.6	40
69	Redirection of metabolic flux for high levels of omega-7 monounsaturated fatty acid accumulation in camelina seeds. <i>Plant Biotechnology Journal</i> , 2015 , 13, 38-50	11.6	70
68	FAD2 and FAD3 desaturases form heterodimers that facilitate metabolic channeling in vivo. <i>Journal of Biological Chemistry</i> , 2014 , 289, 17996-8007	5.4	55
67	Arabidopsis lipins, PDAT1 acyltransferase, and SDP1 triacylglycerol lipase synergistically direct fatty acids toward β oxidation, thereby maintaining membrane lipid homeostasis. <i>Plant Cell</i> , 2014 , 26, 4119-34	11.6	101
66	Coexpressing Escherichia coli cyclopropane synthase with Sterculia foetida Lysophosphatidic acid acyltransferase enhances cyclopropane fatty acid accumulation. <i>Plant Physiology</i> , 2014 , 164, 455-65	6.6	31
65	Survey of the total fatty acid and triacylglycerol composition and content of 30 duckweed species and cloning of a β -desaturase responsible for the production of β linolenic and stearidonic acids in Lemna gibba. <i>BMC Plant Biology</i> , 2013 , 13, 201	5.3	26
64	Fusing catalase to an alkane-producing enzyme maintains enzymatic activity by converting the inhibitory byproduct H ₂ O ₂ to the cosubstrate O ₂ . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 3191-6	11.5	96
63	Parallel and competitive pathways for substrate desaturation, hydroxylation, and radical rearrangement by the non-heme diiron hydroxylase AlkB. <i>Journal of the American Chemical Society</i> , 2012 , 134, 20365-75	16.4	43
62	Feedback regulation of plastidic acetyl-CoA carboxylase by 18:1-acyl carrier protein in Brassica napus. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 10107-12	11.5	108
61	Oil accumulation is controlled by carbon precursor supply for fatty acid synthesis in Chlamydomonas reinhardtii. <i>Plant and Cell Physiology</i> , 2012 , 53, 1380-90	4.9	186
60	Conjugated fatty acid synthesis: residues 111 and 115 influence product partitioning of Momordica charantia conjugase. <i>Journal of Biological Chemistry</i> , 2012 , 287, 16230-7	5.4	20
59	Characterization and analysis of the cotton cyclopropane fatty acid synthase family and their contribution to cyclopropane fatty acid synthesis. <i>BMC Plant Biology</i> , 2011 , 11, 97	5.3	42
58	Stearoyl-acyl carrier protein desaturases are associated with floral isolation in sexually deceptive orchids. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 5696-701	11.5	72
57	Defective pollen wall is required for anther and microspore development in rice and encodes a fatty acyl carrier protein reductase. <i>Plant Cell</i> , 2011 , 23, 2225-46	11.6	180
56	Remote control of regioselectivity in acyl-acyl carrier protein-desaturases. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 16594-9	11.5	51
55	Male Sterile2 encodes a plastid-localized fatty acyl carrier protein reductase required for pollen exine development in Arabidopsis. <i>Plant Physiology</i> , 2011 , 157, 842-53	6.6	150
54	Evidence that the yeast desaturase Ole1p exists as a dimer in vivo. <i>Journal of Biological Chemistry</i> , 2010 , 285, 19384-90	5.4	15
53	Metabolic engineering of seeds can achieve levels of omega-7 fatty acids comparable with the highest levels found in natural plant sources. <i>Plant Physiology</i> , 2010 , 154, 1897-904	6.6	56

52	Stereochemistry of 10-sulfoxidation catalyzed by a soluble Delta9 desaturase. <i>Organic and Biomolecular Chemistry</i> , 2010 , 8, 1322-8	3.9	5
51	Desaturases: emerging models for understanding functional diversification of diiron-containing enzymes. <i>Journal of Biological Chemistry</i> , 2009 , 284, 18559-63	5.4	139
50	Altering Arabidopsis Oilseed Composition by a Combined Antisense-Hairpin RNAi Gene Suppression Approach. <i>JAOCs, Journal of the American Oil Chemists Society</i> , 2009 , 86, 41-49	1.8	8
49	Enzyme Engineering. <i>Advances in Plant Biochemistry and Molecular Biology</i> , 2008 , 29-47		1
48	Revealing the catalytic potential of an acyl-ACP desaturase: tandem selective oxidation of saturated fatty acids. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 14738-43	11.5	31
47	Mutations in a Δ^9 stearoyl-ACP-Desaturase Gene Are Associated with Enhanced Stearic Acid Levels in Soybean Seeds. <i>Crop Science</i> , 2008 , 48, 2305-2313	2.4	59
46	Identification of amino acid residues involved in substrate specificity of plant acyl-ACP thioesterases using a bioinformatics-guided approach. <i>BMC Plant Biology</i> , 2007 , 7, 1	5.3	97
45	Modulating seed beta-ketoacyl-acyl carrier protein synthase II level converts the composition of a temperate seed oil to that of a palm-like tropical oil. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 4742-7	11.5	102
44	The crystal structure of the ivy Delta4-16:0-ACP desaturase reveals structural details of the oxidized active site and potential determinants of regioselectivity. <i>Journal of Biological Chemistry</i> , 2007 , 282, 19863-71	5.4	43
43	Stereochemistry of Delta4 dehydrogenation catalyzed by an ivy (<i>Hedera helix</i>) Delta9 desaturase homolog. <i>Organic and Biomolecular Chemistry</i> , 2007 , 5, 1270-5	3.9	11
42	The Arabidopsis stearoyl-acyl carrier protein-desaturase family and the contribution of leaf isoforms to oleic acid synthesis. <i>Plant Molecular Biology</i> , 2007 , 63, 257-71	4.6	167
41	In vitro enzymatic oxidation of a fluorine-tagged sulfido substrate analogue: a 19F NMR investigation. <i>Magnetic Resonance in Chemistry</i> , 2006 , 44, 629-32	2.1	6
40	A single mutation in the castor Delta9-18:0-desaturase changes reaction partitioning from desaturation to oxidase chemistry. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 17220-4	11.5	27
39	Effect of substrate on the diiron(III) site in stearoyl acyl carrier protein delta 9-desaturase as disclosed by cryoreduction electron paramagnetic resonance/electron nuclear double resonance spectroscopy. <i>Biochemistry</i> , 2005 , 44, 1309-15	3.2	21
38	Linking enzyme sequence to function using Conserved Property Difference Locator to identify and annotate positions likely to control specific functionality. <i>BMC Bioinformatics</i> , 2005 , 6, 284	3.6	25
37	A multifunctional acyl-acyl carrier protein desaturase from <i>Hedera helix</i> L. (English ivy) can synthesize 16- and 18-carbon monoene and diene products. <i>Journal of Biological Chemistry</i> , 2005 , 280, 28169-76	5.4	36
36	A structural model of the plant acyl-acyl carrier protein thioesterase FatB comprises two helix/4-stranded sheet domains, the N-terminal domain containing residues that affect specificity and the C-terminal domain containing catalytic residues. <i>Journal of Biological Chemistry</i> , 2005 , 280, 3621-7	5.4	45
35	Identification of the Arabidopsis palmitoyl-monogalactosyldiacylglycerol delta7-desaturase gene FAD5, and effects of plastidial retargeting of Arabidopsis desaturases on the fad5 mutant phenotype. <i>Plant Physiology</i> , 2004 , 136, 4237-45	6.6	75

34	Switching desaturase enzyme specificity by alternate subcellular targeting. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 10266-71	11.5	79
33	Azide and acetate complexes plus two iron-depleted crystal structures of the di-iron enzyme delta9 stearoyl-acyl carrier protein desaturase. Implications for oxygen activation and catalytic intermediates. <i>Journal of Biological Chemistry</i> , 2003 , 278, 25072-80	5.4	53
32	Evidence linking the <i>Pseudomonas oleovorans</i> alkane omega-hydroxylase, an integral membrane diiron enzyme, and the fatty acid desaturase family. <i>FEBS Letters</i> , 2003 , 545, 188-92	3.8	51
31	Use of ¹⁹ F NMR spectroscopy to probe enzymatic oxidation of fluorine-tagged sulfides. <i>Magnetic Resonance in Chemistry</i> , 2002 , 40, 524-528	2.1	8
30	Desaturation and hydroxylation. Residues 148 and 324 of Arabidopsis FAD2, in addition to substrate chain length, exert a major influence in partitioning of catalytic specificity. <i>Journal of Biological Chemistry</i> , 2002 , 277, 15613-20	5.4	136
29	Exploring the hydroxylation-dehydrogenation connection: novel catalytic activity of castor stearoyl-ACP Delta(9) desaturase. <i>Journal of the American Chemical Society</i> , 2002 , 124, 3277-83	16.4	48
28	A fatty acid desaturase modulates the activation of defense signaling pathways in plants. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2001 , 98, 9448-53	11.5	321
27	Engineering delta 9-16:0-acyl carrier protein (ACP) desaturase specificity based on combinatorial saturation mutagenesis and logical redesign of the castor delta 9-18:0-ACP desaturase. <i>Journal of Biological Chemistry</i> , 2001 , 276, 21500-5	5.4	72
26	Oxidation of chiral 9-fluorinated substrates by castor stearoyl-ACP Δ desaturase yields novel products. <i>Chemical Communications</i> , 2001 , 765-766	5.8	9
25	Application of KIE and thia approaches in the mechanistic study of a plant stearoyl-ACP Δ desaturase. <i>Chemical Communications</i> , 2001 , 401-402	5.8	23
24	Substrate-dependent mutant complementation to select fatty acid desaturase variants for metabolic engineering of plant seed oils. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2000 , 97, 12350-5	11.5	70
23	Overexpression and purification of the <i>Escherichia coli</i> inner membrane enzyme acyl-acyl carrier protein synthase in an active form. <i>Protein Expression and Purification</i> , 2000 , 18, 355-60	2	35
22	Catalytic plasticity of fatty acid modification enzymes underlying chemical diversity of plant lipids. <i>Science</i> , 1998 , 282, 1315-7	33.3	202
21	DESATURATION AND RELATED MODIFICATIONS OF FATTY ACIDS ¹ . <i>Annual Review of Plant Biology</i> , 1998 , 49, 611-641		695
20	A determinant of substrate specificity predicted from the acyl-acyl carrier protein desaturase of developing catclaw seed. <i>Plant Physiology</i> , 1998 , 117, 593-8	6.6	83
19	Redesign of soluble fatty acid desaturases from plants for altered substrate specificity and double bond position. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1997 , 94, 4872-7	11.5	149
18	Characterization of a structurally and functionally diverged acyl-acyl carrier protein desaturase from milkweed seed. <i>Plant Molecular Biology</i> , 1997 , 33, 1105-10	4.6	37
17	Approaches to the Design of Acyl-ACP Desaturases with Altered Fatty Acid Chain-Length and Double Bond Positional Specificities 1997 , 374-376		2

16	Structure-Function Studies on Desaturases and Related Hydrocarbon Hydroxylases 1997 , 6-10		7
15	The Stroma of Higher Plant Plastids Contain ClpP and ClpC, Functional Homologs of Escherichia coli ClpP and ClpA: An Archetypal Two-Component ATP-Dependent Protease. <i>Plant Cell</i> , 1995 , 7, 1713	11.6	89
14	Scanning transmission electron microscopy and small-angle scattering provide evidence that native Escherichia coli ClpP is a tetradecamer with an axial pore. <i>Biochemistry</i> , 1995 , 34, 10910-7	3.2	51
13	Membrane Bound Desaturases and Hydroxylases: Structure Function Studies 1995 , 18-20		7
12	Expression of mRNA and Steady-State Levels of Protein Isoforms of Enoyl-ACP Reductase From Brassica napus 1995 , 90-92		
11	Changes in fatty-acid composition and stearoyl-acyl carrier protein desaturase expression in developing Theobroma cacao L. embryos. <i>Planta</i> , 1994 , 193, 83	4.7	8
10	Expression of mRNA and steady-state levels of protein isoforms of enoyl-ACP reductase from Brassica napus. <i>Plant Molecular Biology</i> , 1994 , 26, 155-63	4.6	31
9	Resonance Raman evidence for an Fe-O-Fe center in stearoyl-ACP desaturase. Primary sequence identity with other diiron-oxo proteins. <i>Biochemistry</i> , 1994 , 33, 12776-86	3.2	186
8	Eight histidine residues are catalytically essential in a membrane-associated iron enzyme, stearoyl-CoA desaturase, and are conserved in alkane hydroxylase and xylene monooxygenase. <i>Biochemistry</i> , 1994 , 33, 12787-94	3.2	649
7	Preliminary crystallographic data for stearoyl-acyl carrier protein desaturase from castor seed. <i>Journal of Molecular Biology</i> , 1992 , 225, 561-4	6.5	21
6	Sequence of a Complementary DNA from Cucumis sativus L. Encoding the Stearoyl-Acyl-Carrier Protein Desaturase. <i>Plant Physiology</i> , 1991 , 97, 467-8	6.6	18
5	Red light-induced accumulation of ubiquitin-phytochrome conjugates in both monocots and dicots. <i>Plant Physiology</i> , 1989 , 90, 380-4	6.6	37
4	Sequence of a cDNA from Chlamydomonas reinhardtii encoding a ubiquitin 52 amino acid extension protein. <i>Nucleic Acids Research</i> , 1989 , 17, 8377	20.1	21
3	Partial purification and peptide mapping of ubiquitin-phytochrome conjugates from oat. <i>Biochemistry</i> , 1989 , 28, 6028-6034	3.2	34
2	An Expanded Role for WRINKLED1 Metabolic Control Based on Combined Phylogenetic and Biochemical Analyses		2
1	BIOTIN ATTACHMENT DOMAIN-CONTAINING proteins, inhibitors of ACCase, are regulated by WRINKLED1		1