Salim Al-Babili

List of Publications by Year
in descending order

131 papers	12,794 citations	31902 53 h-index	25716 108 g-index
141 all docs	141 docs citations	141 times ranked	8907 citing authors

#	Article	IF	Citations
1	Engineering the Provitamin A (-Carotene) Biosynthetic Pathway into (Carotenoid-Free) Rice Endosperm. Science, 2000, 287, 303-305.	6.0	2,067
2	The Path from Î²-Carotene to Carlactone, a Strigolactone-Like Plant Hormone. Science, 2012, 335, 1348-1351.	6.0	809
3	Strigolactones, a Novel Carotenoid-Derived Plant Hormone. Annual Review of Plant Biology, 2015, 66, 161-186.	8.6	658
4	The genome of Chenopodium quinoa. Nature, 2017, 542, 307-312.	13.7	569
5	Rice cytochrome P450 MAX1 homologs catalyze distinct steps in strigolactone biosynthesis. Nature Chemical Biology, 2014, 10, 1028-1033.	3.9	340
6	Golden Rice: Introducing the Î²-Carotene Biosynthesis Pathway into Rice Endosperm by Genetic Engineering to Defeat Vitamin A Deficiency. Journal of Nutrition, 2002, 132, 506S-510S.	1.3	322
7	The biology of strigolactones. Trends in Plant Science, 2013, 18, 72-83.	4.3	318
8	Metabolic Engineering of Potato Carotenoid Content through Tuber-Specific Overexpression of a Bacterial Mini-Pathway. PLoS ONE, 2007, 2, e350.	1.1	293
9	Provitamin A Accumulation in Cassava (Manihot esculenta) Roots Driven by a Single Nucleotide Polymorphism in a Phytoene Synthase Gene. Plant Cell, 2010, 22, 3348-3356.	3.1	259
10	A Third Phytoene Synthase Is Devoted to Abiotic Stress-Induced Abscisic Acid Formation in Rice and Defines Functional Diversification of Phytoene Synthase Genes Â. Plant Physiology, 2008, 147, 367-380.	2.3	247
11	Mechanistic Aspects of Carotenoid Biosynthesis. Chemical Reviews, 2014, 114, 164-193.	23.0	243
12	The Structure of a Retinal-Forming Carotenoid Oxygenase. Science, 2005, 308, 267-269.	6.0	242
13	Novel carotenoid cleavage dioxygenase catalyzes the first dedicated step in saffron crocin biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12246-12251.	3.3	239
14	Carotenoid oxygenases: cleave it or leave it. Trends in Plant Science, 2003, 8, 145-149.	4.3	231
15	A novel carotenoid cleavage activity involved in the biosynthesis of Citrus fruit-specific apocarotenoid pigments. Journal of Experimental Botany, 2013, 64, 4461-4478.	2.4	176
16	From carotenoids to strigolactones. Journal of Experimental Botany, 2018, 69, 2189-2204.	2.4	173
17	Golden Rice â€“ five years on the road â€“ five years to go?. Trends in Plant Science, 2005, 10, 565-573.	4.3	162
18	Bioengineered â€˜goldenâ€™ indica rice cultivars with Î²-carotene metabolism in the endosperm with hygromycin and mannose selection systems. Plant Biotechnology Journal, 2003, 1, 81-90.	4.1	160

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19	Microevolution in Cyanobacteria: Re-sequencing a Motile Substrain of Synechocystis sp. PCC 6803. DNA Research, 2012, 19, 435-448.	1.5	138
20	The endophytic fungus Piriformospora indica enhances Arabidopsis thaliana growth and modulates Na + /K + homeostasis under salt stress conditions. Plant Science, 2017, 263, 107-115.	1.7	124
21	Characterization of the rice carotenoid cleavage dioxygenaseâ€ƒ1 reveals a novel route for geranial biosynthesis. FEBS Journal, 2009, 276, 736-747.	2.2	122
22	Strigolactone biosynthesis is evolutionarily conserved, regulated by phosphate starvation and contributes to resistance against phytopathogenic fungi in a moss, Physcomitrella patens. New Phytologist, 2017, 216, 455-468.	3.5	121
23	Retinal biosynthesis in Eubacteria: in vitro characterization of a novel carotenoid oxygenase from Synechocystis sp. PCC 6803. Molecular Microbiology, 2004, 55, 1015-1024.	1.2	119
24	A novel, soluble form of phytoene desaturase from Narcissus pseudonarcissus chromoplasts is Hsp70-complexed and competent for flavinylation, membrane association and enzymatic activation. Plant Journal, 1996, 9, 601-612.	2.8	118
25	Apocarotenoids Involved in Plant Development and Stress Response. Frontiers in Plant Science, 2019, 10, 1168.	1.7	116
26	The apocarotenoid metabolite zaxinone regulates growth and strigolactone biosynthesis in rice. Nature Communications, 2019, 10, 810.	5.8	113
27	Plant apocarotenoids: from retrograde signaling to interspecific communication. Plant Journal, 2021, 105, 351-375.	2.8	112
28	Î²-Cyclocitral is a conserved root growth regulator. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 10563-10567.	3.3	111
29	Phytoene synthase from Narcissus pseudonarcissus: functional expression, galactolipid requirement, topological distribution in chromoplasts and induction during flowering. Plant Journal, 1996, 10, 781-792.	2.8	108
30	Why Is Golden Rice Golden (Yellow) Instead of Red?. Plant Physiology, 2005, 138, 441-450.	2.3	108
31	Tomato carotenoid cleavage dioxygenases 1A and 1B: Relaxed double bond specificity leads to a plenitude of dialdehydes, monoâ€apocarotenoids and isoprenoid volatiles. FEBS Open Bio, 2014, 4, 584-593.	1.0	107
32	Engineering plant architecture via CRISPR/Cas9-mediated alteration of strigolactone biosynthesis. BMC Plant Biology, 2018, 18, 174.	1.6	106
33	Golden Indica and Japonica Rice Lines Amenable to Deregulation. Plant Physiology, 2003, 133, 161-169.	2.3	103
34	Identification of a novel gene coding for neoxanthin synthase from Solanum tuberosum. FEBS Letters, 2000, 485, 168-172.	1.3	90
35	Retinal Biosynthesis in Fungi: Characterization of the Carotenoid Oxygenase CarX from Fusarium fujikuroi. Eukaryotic Cell, 2007, 6, 650-657.	3.4	89
36	On the Structure and Function of the Phytoene Desaturase CRTI from Pantoea ananatis, a Membrane-Peripheral and FAD-Dependent Oxidase/Isomerase. PLoS ONE, 2012, 7, e39550.	1.1	87

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37	Carotenoid oxygenases involved in plant branching catalyse a highly specific conserved apocarotenoid cleavage reaction. Biochemical Journal, 2008, 416, 289-296.	1.7	86
38	Chloroplast Import of Four Carotenoid Biosynthetic Enzymes In Vitro Reveals Differential Fates Prior to Membrane Binding and Oligomeric Assembly. FEBS Journal, 1997, 247, 942-950.	0.2	85
39	Transcriptional-Metabolic Networks in Î²-Carotene-Enriched Potato Tubers: The Long and Winding Road to the Golden Phenotype Â Â Â. Plant Physiology, 2010, 154, 899-912.	2.3	83
40	The interaction of strigolactones with abscisic acid during the drought response in rice. Journal of Experimental Botany, 2018, 69, 2403-2414.	2.4	80
41	Enzymatic study on AtCCD4 and AtCCD7 and their potential to form acyclic regulatory metabolites. Journal of Experimental Botany, 2016, 67, 5993-6005.	2.4	79
42	Evidence That Cytochrome b559 Mediates the Oxidation of Reduced Plastoquinone in the Dark. Journal of Biological Chemistry, 2003, 278, 13554-13560.	1.6	77
43	Retinal is formed from apo-carotenoids in Nostoc sp. PCC7120: in vitro characterization of an apo-carotenoid oxygenase. Biochemical Journal, 2006, 398, 361-369.	1.7	76
44	Apocarotenoids: Old and New Mediators of the Arbuscular Mycorrhizal Symbiosis. Frontiers in Plant Science, 2019, 10, 1186.	1.7	74
45	On the substrateâ€•and stereospecificity of the plant carotenoid cleavage dioxygenase 7. FEBS Letters, 2014, 588, 1802-1807.	1.3	71
46	Suicidal germination as a control strategy for Striga hermonthica (Benth.) in smallholder farms of subâ€Saharan Africa. Plants People Planet, 2019, 1, 107-118.	1.6	70
47	The Genome Sequence of the Wild Tomato Solanum pimpinellifolium Provides Insights Into Salinity Tolerance. Frontiers in Plant Science, 2018, 9, 1402.	1.7	69
48	Overexpression of the rice carotenoid cleavage dioxygenase 1 gene in Golden Rice endosperm suggests apocarotenoids as substrates in planta. Planta, 2010, 232, 691-699.	1.6	67
49	Anchorene is a carotenoid-derived regulatory metabolite required for anchor root formation in Arabidopsis. Science Advances, 2019, 5, eaaw6787.	4.7	67
50	The potato carotenoid cleavage dioxygenase 4 catalyzes a single cleavage of Î²-ionone ring-containing carotenes and non-epoxidated xanthophylls. Archives of Biochemistry and Biophysics, 2015, 572, 126-133.	1.4	65
51	Candidate Enzymes for Saffron Crocin Biosynthesis Are Localized in Multiple Cellular Compartments. Plant Physiology, 2018, 177, 990-1006.	2.3	64
52	On the substrate specificity of the rice strigolactone biosynthesis enzyme DWARF27. Planta, 2016, 243, 1429-1440.	1.6	61
53	In vitro characterization of a carotenoid cleavage dioxygenase from Nostoc sp. PCC 7120 reveals a novel cleavage pattern, cytosolic localization and induction by highlight. Molecular Microbiology, 2008, 69, 231-244.	1.2	60
54	Identification and biochemical characterization of a novel carotenoid oxygenase: elucidation of the cleavage step in the Fusarium carotenoid pathway. Molecular Microbiology, 2007, 64, 448-460.	1.2	59

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55	The Arabidopsis DWARF27 gene encodes an all-trans-/9-cis-Î²-carotene isomerase and is induced by auxin, abscisic acid and phosphate deficiency. Plant Science, 2018, 277, 33-42.	1.7	59
56	An alternative, zeaxanthin epoxidase-independent abscisic acid biosynthetic pathway in plants. Molecular Plant, 2022, 15, 151-166.	3.9	55
57	Cleavage oxygenases for the biosynthesis of trisporoids and other apocarotenoids in Phycomyces. Molecular Microbiology, 2011, 82, 199-208.	1.2	53
58	Insights into the formation of carlactone from inâ€depth analysis of the <scp>CCD</scp>8â€catalyzed reactions. FEBS Letters, 2017, 591, 792-800.	1.3	52
59	On the biosynthesis and evolution of apocarotenoid plant growth regulators. Seminars in Cell and Developmental Biology, 2021, 109, 3-11.	2.3	52
60	StrigoQuant: A genetically encoded biosensor for quantifying strigolactone activity and specificity. Science Advances, 2016, 2, e1601266.	4.7	51
61	The Lycopene Cyclase CrtY from Pantoea ananatis (Formerly Erwinia uredovora) Catalyzes an FADred-dependent Non-redox Reaction. Journal of Biological Chemistry, 2010, 285, 12109-12120.	1.6	50
62	Methyl phenlactonoates are efficient strigolactone analogs with simple structure. Journal of Experimental Botany, 2018, 69, 2319-2331.	2.4	50
63	Carotenoid biofortification in crop plants: citius, altius, fortius. Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids, 2020, 1865, 158664.	1.2	50
64	Identification of the gene responsible for torulene cleavage in the Neurospora carotenoid pathway. Molecular Genetics and Genomics, 2007, 278, 527-537.	1.0	49
65	The Apocarotenoid Zaxinone Is a Positive Regulator of Strigolactone and Abscisic Acid Biosynthesis in Arabidopsis Roots. Frontiers in Plant Science, 2020, 11, 578.	1.7	48
66	Exploring the potential of the bacterial carotene desaturase CrtI to increase the Î²-carotene content in Golden Rice. Journal of Experimental Botany, 2006, 57, 1007-1014.	2.4	47
67	Structural basis for specific inhibition of the highly sensitive Sh <scp>HTL</scp> 7 receptor. EMBO Reports, 2018, 19, .	2.0	47
68	Hemin and Magnesium-Protoporphyrin IX Induce Global Changes in Gene Expression in Chlamydomonas reinhardtii Â Â. Plant Physiology, 2011, 155, 892-905.	2.3	46
69	The yloâ€1 gene encodes an aldehyde dehydrogenase responsible for the last reaction in the Neurospora carotenoid pathway. Molecular Microbiology, 2008, 69, 1207-1220.	1.2	43
70	Ustilago maydis accumulates Î²-carotene at levels determined by a retinal-forming carotenoid oxygenase. Fungal Genetics and Biology, 2009, 46, 803-813.	0.9	43
71	A rapid LC-MS method for qualitative and quantitative profiling of plant apocarotenoids. Analytica Chimica Acta, 2018, 1035, 87-95.	2.6	42
72	Overexpression of the NAC transcription factor JUNGBRUNNEN1 (JUB1) increases salinity tolerance in tomato. Plant Physiology and Biochemistry, 2019, 140, 113-121.	2.8	42

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73	The Trihelix transcription factor GT2-like 1 (GTL1) promotes salicylic acid metabolism, and regulates bacterial-triggered immunity. PLoS Genetics, 2018, 14, e1007708.	1.5	41
74	Novel apocarotenoid intermediates in Neurospora crassa mutants imply a new biosynthetic reaction sequence leading to neurosporaxanthin formation. Fungal Genetics and Biology, 2008, 45, 1497-1505.	0.9	40
75	The gene carD encodes the aldehyde dehydrogenase responsible for neurosporaxanthin biosynthesis in Fusariumâ€ƒfujikuroi. FEBS Journal, 2011, 278, 3164-3176.	2.2	39
76	Expression of a carotenogenic gene allows faster biomass production by redesigning plant architecture and improving photosynthetic efficiency in tobacco. Plant Journal, 2020, 103, 1967-1984.	2.8	39
77	3-Hydroxycarlactone, a Novel Product of the Strigolactone Biosynthesis Core Pathway. Molecular Plant, 2018, 11, 1312-1314.	3.9	38
78	Current progress in Striga management. Plant Physiology, 2021, 185, 1339-1352.	2.3	37
79	Deviation of the neurosporaxanthin pathway towards Î²â€carotene biosynthesis in Fusariumâ€ƒfujikuroi by a point mutation in the phytoene desaturase gene. FEBS Journal, 2009, 276, 4582-4597.	2.2	35
80	The <scp>ORF </scp>slr0091 of <scp>S</scp>ynechocystisÂsp. <scp>PCC</scp>6803 encodes a highâ€light induced aldehyde dehydrogenase converting apocarotenals and alkanals. FEBS Journal, 2013, 280, 3685-3696.	2.2	35
81	Putative storage root specific promoters from cassava and yam: cloning and evaluation in transgenic carrots as a model system. Plant Cell Reports, 2010, 29, 651-659.	2.8	30
82	Cleavage of resveratrol in fungi: Characterization of the enzyme Rco1 from Ustilago maydis. Fungal Genetics and Biology, 2011, 48, 132-143.	0.9	30
83	The Mycobacteriumâ€ƒtuberculosis ORF Rv0654 encodes a carotenoid oxygenase mediating central and excentric cleavage of conventional and aromatic carotenoids. FEBS Journal, 2010, 277, 4662-4673.	2.2	29
84	Inâ€ƒvitro characterization of Synechocystis CYP120A1 revealed the first nonanimal retinoic acid hydroxylase. FEBS Journal, 2009, 276, 5416-5431.	2.2	27
85	The Oxygenase CAO-1 of Neurospora crassa Is a Resveratrol Cleavage Enzyme. Eukaryotic Cell, 2013, 12, 1305-1314.	3.4	25
86	Emergent Protective Organogenesis in Date Palms: A Morpho-Devo-Dynamic Adaptive Strategy during Early Development. Plant Cell, 2019, 31, 1751-1766.	3.1	24
87	Efficient Mimics for Elucidating Zaxinone Biology and Promoting Agricultural Applications. Molecular Plant, 2020, 13, 1654-1661.	3.9	24
88	Analysis of al-2 Mutations in Neurospora. PLoS ONE, 2011, 6, e21948.	1.1	23
89	Synthetic strigolactone analogues reveal anti-cancer activities on hepatocellular carcinoma cells. Bioorganic and Medicinal Chemistry Letters, 2018, 28, 1077-1083.	1.0	23
90	Exploring the Diversity and Regulation of Apocarotenoid Metabolic Pathways in Plants. Frontiers in Plant Science, 2021, 12, 787049.	1.7	23

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91	Nitro-Phenlactone, a Carlactone Analog with Pleiotropic Strigolactone Activities. Molecular Plant, 2016, 9, 1341-1344.	3.9	22
92	Natural Auxin Does Not Inhibit Brefeldin A Induced PIN1 and PIN2 Internalization in Root Cells. Frontiers in Plant Science, 2019, 10, 574.	1.7	22
93	Carotenoid Biofortification of Crops in the CRISPR Era. Trends in Biotechnology, 2021, 39, 857-860.	4.9	22
94	Colonization by the endophyte Piriformospora indica leads to early flowering in Arabidopsis thaliana likely by triggering gibberellin biosynthesis. Biochemical and Biophysical Research Communications, 2017, 490, 1162-1167.	1.0	21
95	Lycopene Î²-cyclase expression influences plant physiology, development, and metabolism in tobacco plants. Journal of Experimental Botany, 2021, 72, 2544-2569.	2.4	21
96	SeedQuant: a deep learning-based tool for assessing stimulant and inhibitor activity on root parasitic seeds. Plant Physiology, 2021, 186, 1632-1644.	2.3	21
97	Striga hermonthica Suicidal Germination Activity of Potent Strigolactone Analogs: Evaluation from Laboratory Bioassays to Field Trials. Plants, 2022, 11, 1045.	1.6	21
98	Effect of the strigolactone analogs methyl phenlactonoates on spore germination and root colonization of arbuscular mycorrhizal fungi. Heliyon, 2018, 4, e00936.	1.4	20
99	Methylation at the C-3â€² in D-Ring of Strigolactone Analogs Reduces Biological Activity in Root Parasitic Plants and Rice. Frontiers in Plant Science, 2019, 10, 353.	1.7	20
100	Protocol for characterizing strigolactones released by plant roots. STAR Protocols, 2022, 3, 101352.	0.5	20
101	An LC-MS profiling method reveals a route for apocarotene glycosylation and shows its induction by high light stress in Arabidopsis. Analyst, The, 2019, 144, 1197-1204.	1.7	19
102	A New Series of Carlactonoic Acid Based Strigolactone Analogs for Fundamental and Applied Research. Frontiers in Plant Science, 2020, 11, 434.	1.7	19
103	A manipulation of carotenoid metabolism influence biomass partitioning and fitness in tomato. Metabolic Engineering, 2022, 70, 166-180.	3.6	19
104	Expression pattern conferred by a glutamic acid-rich protein gene promoter in field-grown transgenic cassava (Manihot esculenta Crantz). Planta, 2010, 231, 1413-1424.	1.6	18
105	Multi-omics approaches explain the growth-promoting effect of the apocarotenoid growth regulator zaxinone in rice. Communications Biology, 2021, 4, 1222.	2.0	18
106	A New Formulation for Strigolactone Suicidal Germination Agents, towards Successful Striga Management. Plants, 2022, 11, 808.	1.6	18
107	INDETERMINATE-DOMAIN 4 (IDD4) coordinates immune responses with plant-growth in Arabidopsis thaliana. PLoS Pathogens, 2019, 15, e1007499.	2.1	17
108	A Chimeric IDD4 Repressor Constitutively Induces Immunity in Arabidopsis via the Modulation of Salicylic Acid and Jasmonic Acid Homeostasis. Plant and Cell Physiology, 2019, 60, 1536-1555.	1.5	17

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109	Isoâ€anchorene is an endogenous metabolite that inhibits primary root growth in Arabidopsis. Plant Journal, 2021, 107, 54-66.	2.8	16
110	The Arabidopsis homolog of human G3BP1 is a key regulator of stomatal and apoplastic immunity. Life Science Alliance, 2018, 1, e201800046.	1.3	16
111	Strigolactone Biosynthesis and Signal Transduction. , 2019, , 1-45.		15
112	Discovery of a Nitric Oxide-Responsive Protein in Arabidopsis thaliana. Molecules, 2019, 24, 2691.	1.7	14
113	A Highly Sensitive SPE Derivatizationâ€“UHPLCâ€“MS Approach for Quantitative Profiling of Carotenoid-Derived Dialdehydes from Vegetables. Journal of Agricultural and Food Chemistry, 2019, 67, 5899-5907.	2.4	13
114	LCâ€“MS-Based Profiling Provides New Insights into Apocarotenoid Biosynthesis and Modifications in Citrus Fruits. Journal of Agricultural and Food Chemistry, 2021, 69, 1842-1851.	2.4	12
115	Rational design ofStriga hermonthica-specific seed germination inhibitors. Plant Physiology, 2022, 188, 1369-1384.	2.3	12
116	To Color or to Decolor: that Is the Question. Molecular Plant, 2019, 12, 1173-1175.	3.9	9
117	A RALDH-like enzyme involved in Fusarium verticillioides development. Fungal Genetics and Biology, 2016, 86, 20-32.	0.9	7
118	CATION-CHLORIDE CO-TRANSPORTER 1 (CCC1) Mediates Plant Resistance against Pseudomonas syringae. Plant Physiology, 2020, 182, 1052-1065.	2.3	7
119	A PLETHORA/PIN-FORMED/auxin network mediates prehaustorium formation in the parasitic plant Striga hermonthica. Plant Physiology, 2022, 189, 2281-2297.	2.3	7
120	Biosynthesis of Î²â€Carotene (Provitamin a) in Rice Endosperm Achieved by Genetic Engineering. Novartis Foundation Symposium, 2001, 236, 219-232.	1.2	6
121	A structural homologue of the plant receptor D14 mediates responses to strigolactones in the fungal phytopathogen Cryphonectria parasitica. New Phytologist, 2022, 234, 1003-1017.	3.5	6
122	A Protoplast-Based Bioassay to Quantify Strigolactone Activity in Arabidopsis Using StrigoQuant. Methods in Molecular Biology, 2021, 2309, 201-218.	0.4	5
123	Evaluation of the Biostimulant Activity of Zaxinone Mimics (MiZax) in Crop Plants. Frontiers in Plant Science, 0, 13, .	1.7	5
124	A Method for Extraction and LC-MS-Based Identification of Carotenoid-Derived Dialdehydes in Plants. Methods in Molecular Biology, 2020, 2083, 177-188.	0.4	4
125	Determination of In Vitro and In Vivo Activities of Plant Carotenoid Cleavage Oxygenases. Methods in Molecular Biology, 2020, 2083, 63-74.	0.4	3
126	Characterizing cytochrome P450 enzymes involved in plant apocarotenoid metabolism by using an engineered yeast system. Methods in Enzymology, 2022, , 527-552.	0.4	3

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127	Apocarotenoids produced from Î²-carotene by dioxygenases from Mucor circinelloides. Microbiology (United Kingdom), 2019, 165, 433-438.	0.7	2
128	High-energy-level metabolism and transport occur at the transition from closed to open flowers. Plant Physiology, 2022, 190, 319-339.	2.3	2
129	Effect of D-ring C-3â€™ methylation of strigolactone analogs on their transcription regulating activity in rice. Plant Signaling and Behavior, 2019, 14, 1668234.	1.2	1
130	Ultrahighâ€Performance Liquid Chromatographyâ€“Mass Spectrometry Analysis of Carotenoidâ€Derived Hormones and Apocarotenoids in Plants. Current Protocols, 2022, 2, e375.	1.3	0
131	Screening for apocarotenoid plant growth regulators in Arabidopsis. Methods in Enzymology, 2022, , .	0.4	0