F Robert Tabita

List of Publications by Year
in descending order

93 papers	5,074 citations	109321 35 h-index	98798 67 g-index
93 all docs	93 docs citations	93 times ranked	3856 citing authors

#	Article	IF	Citations
1	Carbon Footprint of Biomimetic Carbon Fixation by Immobilizing Natureâ€™s CO₂-sequestering Enzyme and Regenerating Its Energy Carrier. ACS Sustainable Chemistry and Engineering, 2020, 8, 16833-16841.	6.7	6
2	A nitrogenase-like enzyme system catalyzes methionine, ethylene, and methane biogenesis. Science, 2020, 369, 1094-1098.	12.6	44
3	A bifunctional salvage pathway for two distinct Sâ€adenosylmethionine byâ€products that is widespread in bacteria, including pathogenic Escherichia coli. Molecular Microbiology, 2020, 113, 923-937.	2.5	18
4	Selection of Cyanobacterial (Synechococcus sp. Strain PCC 6301) RubisCO Variants with Improved Functional Properties That Confer Enhanced CO ₂ -Dependent Growth of Rhodobacter capsulatus, a Photosynthetic Bacterium. MBio, 2019, 10, .	4.1	24
5	Structural Perturbations of Rhodopseudomonas palustris Form II RuBisCO Mutant Enzymes That Affect CO₂ Fixation. Biochemistry, 2019, 58, 3880-3892.	2.5	6
6	Isotope discrimination by form IC RubisCO from Ralstonia eutropha and Rhodobacter sphaeroides, metabolically versatile members of â€˜Proteobacteriaâ€™ from aquatic and soil habitats. Environmental Microbiology, 2019, 21, 72-80.	3.8	19
7	Two Distinct Aerobic Methionine Salvage Pathways Generate Volatile Methanethiol in Rhodopseudomonas palustris. MBio, 2018, 9, .	4.1	10
8	The Arnonâ€“Buchanan cycle: a retrospective, 1966â€“2016. Photosynthesis Research, 2017, 134, 117-131.	2.9	14
9	Microbial pathway for anaerobic 5â€²-methylthioadenosine metabolism coupled to ethylene formation. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E10455-E10464.	7.1	37
10	Synthetic CO2-fixation enzyme cascades immobilized on self-assembled nanostructures that enhance CO2/O2 selectivity of RubisCO. Biotechnology for Biofuels, 2017, 10, 175.	6.2	24
11	Functional metagenomic selection of ribulose 1, 5â€bisphosphate carboxylase/oxygenase from uncultivated bacteria. Environmental Microbiology, 2016, 18, 1187-1199.	3.8	26
12	Rubis<scp>CO</scp> selection using the vigorously aerobic and metabolically versatile bacterium Ralstonia eutropha. FEBS Journal, 2016, 283, 2869-2880.	4.7	30
13	Polypyrrole membranes as scaffolds for biomolecule immobilization. Smart Materials and Structures, 2016, 25, 125033.	3.5	5
14	Metabolic Regulation as a Consequence of Anaerobic 5-Methylthioadenosine Recycling in Rhodospirillum rubrum. MBio, 2016, 7, .	4.1	15
15	RubisCO of a nucleoside pathway known from Archaea is found in diverse uncultivated phyla in bacteria. ISME Journal, 2016, 10, 2702-2714.	9.8	98
16	In Vivo Studies in Rhodospirillum rubrum Indicate That Ribulose-1,5-bisphosphate Carboxylase/Oxygenase (Rubisco) Catalyzes Two Obligatorily Required and Physiologically Significant Reactions for Distinct Carbon and Sulfur Metabolic Pathways. Journal of Biological Chemistry, 2015, 290, 30658-30668.	3.4	23
17	Development of a plasmid addicted system that is independent of co-inducers, antibiotics and specific carbon source additions for bioproduct (1-butanol) synthesis in Escherichia coli. Metabolic Engineering Communications, 2015, 2, 6-12.	3.6	2
18	CbbR, the Master Regulator for Microbial Carbon Dioxide Fixation. Journal of Bacteriology, 2015, 197, 3488-3498.	2.2	48

#	Article	IF	Citations
19	Amino acid substitutions in the transcriptional regulator CbbR lead to constitutively active CbbR proteins that elevate expression of the cbb CO2 fixation operons in Ralstonia eutropha (Cupriavidus) Tj ETQq1 1 0.784314 rgBT /Overlo 2015, 161, 1816-1829.	1.8	7
20	Phosphoribulokinase mediates nitrogenase-induced carbon dioxide fixation gene repression in Rhodobacter sphaeroides. Microbiology (United Kingdom), 2015, 161, 2184-2191.	1.8	3
21	Serine 363 of a Hydrophobic Region of Archaeal Ribulose 1,5-Bisphosphate Carboxylase/Oxygenase from Archaeoglobus fulgidus and Thermococcus kodakaraensis Affects CO2/O2 Substrate Specificity and Oxygen Sensitivity. PLoS ONE, 2015, 10, e0138351.	2.5	17
22	Amino Acid Residues of RegA Important for Interactions with the CbbR-DNA Complex of Rhodobacter sphaeroides. Journal of Bacteriology, 2014, 196, 3179-3190.	2.2	11
23	Structure-Function Studies with the Unique Hexameric Form II Ribulose-1,5-bisphosphate Carboxylase/Oxygenase (Rubisco) from Rhodopseudomonas palustris. Journal of Biological Chemistry, 2014, 289, 21433-21450.	3.4	36
24	Regulatory Twist and Synergistic Role of Metabolic Coinducer- and Response Regulator-Mediated CbbR- cbb _I Interactions in Rhodopseudomonas palustris CGA010. Journal of Bacteriology, 2013, 195, 1381-1388.	2.2	9
25	Further Unraveling the Regulatory Twist by Elucidating Metabolic Coinducer-Mediated CbbR- cbb _I Promoter Interactions in Rhodopseudomonas palustris CGA010. Journal of Bacteriology, 2012, 194, 1350-1360.	2.2	19
26	1-Methylthio-<scp>d</scp>-xylulose 5-Phosphate Methylsulfurylase: A Novel Route to 1-Deoxy-<scp>d</scp>-xylulose 5-Phosphate in Rhodospirillum rubrum. Biochemistry, 2012, 51, 8324-8326.	2.5	17
27	Mechanistic Diversity in the RuBisCO Superfamily: RuBisCO from Rhodospirillum rubrum Is Not Promiscuous for Reactions Catalyzed by RuBisCO-like Proteins. Biochemistry, 2012, 51, 9470-9479.	2.5	7
28	A RubisCO-like protein links SAM metabolism with isoprenoid biosynthesis. Nature Chemical Biology, 2012, 8, 926-932.	8.0	73
29	Phototrophic CO2 Fixation: Recent Insights into Ancient Metabolisms. Advances in Photosynthesis and Respiration, 2012, , 225-251.	1.0	38
30	Unravelling the regulatory twist â€“ regulation of CO₂ fixation in Rhodopseudomonas palustris CGA010 mediated by atypical response regulator(s)^{â€}. Molecular Microbiology, 2011, 80, 756-771.	2.5	12
31	Roles of RubisCO and the RubisCO-Like Protein in 5-Methylthioadenosine Metabolism in the Nonsulfur Purple Bacterium Rhodospirillum rubrum. Journal of Bacteriology, 2010, 192, 1324-1331.	2.2	20
32	Functional Prokaryotic RubisCO from an Oceanic Metagenomic Library. Applied and Environmental Microbiology, 2010, 76, 2997-3003.	3.1	19
33	Integrative Control of Carbon, Nitrogen, Hydrogen, and Sulfur Metabolism: The Central Role of the Calvinâ€“Bensonâ€“Bassham Cycle. Advances in Experimental Medicine and Biology, 2010, 675, 265-271.	1.6	13
34	The hydroxypropionate pathway of CO ₂ fixation: Fait accompli. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21015-21016.	7.1	20
35	Ecophysiology of â€œ Halarsenatibacter silvermanii â€•Strain SLAS-1 ^T , gen. nov., sp. nov., a Facultative Chemoautotrophic Arsenate Respirer from Salt-Saturated Searles Lake, California. Applied and Environmental Microbiology, 2009, 75, 1950-1960.	3.1	58
36	Differential Accumulation of Form I RubisCO in Rhodopseudomonas palustris CGA010 under Photoheterotrophic Growth Conditions with Reduced Carbon Sources. Journal of Bacteriology, 2009, 191, 4243-4250.	2.2	30

#	Article	IF	Citations
37	Proteinâ€“protein interactions between CbbR and RegA (PrrA), transcriptional regulators of the cbb operons of Rhodobacter sphaeroides. Molecular Microbiology, 2009, 71, 717-729.	2.5	22
38	A Rubisco Mutant That Confers Growth under a Normally â€œInhibitoryâ€•Oxygen Concentration. Biochemistry, 2009, 48, 9076-9083.	2.5	24
39	Carbon Dioxide Metabolism and its Regulation in Nonsulfur Purple Photosynthetic Bacteria. Advances in Photosynthesis and Respiration, 2009, , 563-576.	1.0	10
40	Mechanistic Diversity in the RuBisCO Superfamily: A Novel Isomerization Reaction Catalyzed by the RuBisCO-like Protein from Rhodospirillum rubrum. Biochemistry, 2008, 47, 11171-11173.	2.5	28
41	Phylogenetic and evolutionary relationships of RubisCO and the RubisCO-like proteins and the functional lessons provided by diverse molecular forms. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 2629-2640.	4.0	134
42	Alkalilimnicola ehrlichii sp. nov., a novel, arsenite-oxidizing haloalkaliphilic gammaproteobacterium capable of chemoautotrophic or heterotrophic growth with nitrate or oxygen as the electron acceptor. International Journal of Systematic and Evolutionary Microbiology, 2007, 57, 504-512.	1.7	226
43	Distinct form I, II, III, and IV Rubisco proteins from the three kingdoms of life provide clues about Rubisco evolution and structure/function relationships. Journal of Experimental Botany, 2007, 59, 1515-1524.	4.8	341
44	Substitutions at Methionine 295 of Archaeoglobus fulgidus Ribulose-1,5-bisphosphate Carboxylase/Oxygenase Affect Oxygen Binding and CO2/O2 Specificity. Journal of Biological Chemistry, 2007, 282, 1341-1351.	3.4	31
45	Rubisco: The Enzyme that Keeps on Giving. Cell, 2007, 129, 1039-1040.	28.9	16
46	Function, Structure, and Evolution of the RubisCO-Like Proteins and Their RubisCO Homologs. Microbiology and Molecular Biology Reviews, 2007, 71, 576-599.	6.6	310
47	Phosphotransfer Reactions of the CbbRRS Three-Protein Two- Component System from Rhodopseudomonas palustris CGA010 Appear To Be Controlled by an Internal Molecular Switch on the Sensor Kinase. Journal of Bacteriology, 2007, 189, 325-335.	2.2	16
48	Phytoplankton carbon fixation gene (RuBisCO) transcripts and air-sea CO2 flux in the Mississippi River plume. ISME Journal, 2007, 1, 517-531.	9.8	39
49	A Novel Three-Protein Two-Component System Provides a Regulatory Twist on an Established Circuit To Modulate Expression of the cbb I Region of Rhodopseudomonas palustris CGA010. Journal of Bacteriology, 2006, 188, 2780-2791.	2.2	31
50	Residues that influencein vivoandin vitroCbbR function inRhodobacter sphaeroidesand identification of a specific region critical for co-inducer recognition. Molecular Microbiology, 2005, 57, 1397-1414.	2.5	33
51	Crystal Structure of a RuBisCO-like Protein from the Green Sulfur Bacterium Chlorobium tepidum. Structure, 2005, 13, 779-789.	3.3	34
52	Research on carbon dioxide fixation in photosynthetic microorganisms (1971-present). , 2005, , 771-788.		1
53	Modified Pathway To Synthesize Ribulose 1,5-Bisphosphate in Methanogenic Archaea. Journal of Bacteriology, 2004, 186, 6360-6366.	2.2	75
54	Effector-Mediated Interaction of CbbRI and CbbRII Regulators with Target Sequences in Rhodobacter capsulatus. Journal of Bacteriology, 2004, 186, 8026-8035.	2.2	40

#	Article	IF	Citations
55	Glycine 176 Affects Catalytic Properties and Stability of the Synechococcus sp. Strain PCC6301 Ribulose-1,5-bisphosphate Carboxylase/Oxygenase. Journal of Biological Chemistry, 2004, 279, 25632-25637.	3.4	12
56	Complete genome sequence of the metabolically versatile photosynthetic bacterium Rhodopseudomonas palustris. Nature Biotechnology, 2004, 22, 55-61.	17.5	675
57	Research on Carbon Dioxide Fixation in Photosynthetic Microorganisms (1971â€“present). Photosynthesis Research, 2004, 80, 315-332.	2.9	18
58	Regulators of nonsulfur purple phototrophic bacteria and the interactive control of CO2assimilation, nitrogen fixation, hydrogen metabolism and energy generation. FEMS Microbiology Reviews, 2004, 28, 353-376.	8.6	85
59	Insights into the stress response and sulfur metabolism revealed by proteome analysis of a Chlorobium tepidum mutant lacking the Rubisco-like protein. Photosynthesis Research, 2003, 78, 231-248.	2.9	43
60	Positive and Negative Selection of Mutant Forms of Prokaryotic (Cyanobacterial) Ribulose-1,5-bisphosphate Carboxylase/Oxygenase. Journal of Molecular Biology, 2003, 331, 557-569.	4.2	61
61	Synthesis of Catalytically Active Form III Ribulose 1,5-Bisphosphate Carboxylase/Oxygenase in Archaea. Journal of Bacteriology, 2003, 185, 3049-3059.	2.2	68
62	Interactions of the cbbII Promoter-Operator Region with CbbR and RegA (PrrA) Regulators Indicate Distinct Mechanisms to Control Expression of the Two cbb Operons of Rhodobacter sphaeroides. Journal of Biological Chemistry, 2003, 278, 16443-16450.	3.4	40
63	Up-Regulated Expression of the cbb I and cbb II Operons during Photoheterotrophic Growth of a Ribulose 1,5-Bisphosphate Carboxylase-Oxygenase Deletion Mutant of Rhodobacter sphaeroides. Journal of Bacteriology, 2002, 184, 6721-6724.	2.2	23
64	Differential Expression of the CO 2 Fixation Operons of Rhodobacter sphaeroides by the Prr/Reg Two-Component System during Chemoautotrophic Growth. Journal of Bacteriology, 2002, 184, 6654-6664.	2.2	26
65	Metabolic Signals That Lead to Control of CBB Gene Expression in Rhodobacter capsulatus. Journal of Bacteriology, 2002, 184, 1905-1915.	2.2	30
66	Complex I and Its Involvement in Redox Homeostasis and Carbon and Nitrogen Metabolism in Rhodobacter capsulatus. Journal of Bacteriology, 2001, 183, 7285-7294.	2.2	17
67	Interactive Control of Rhodobacter capsulatus Redox-Balancing Systems during Phototrophic Metabolism. Journal of Bacteriology, 2001, 183, 6344-6354.	2.2	43
68	Maintenance and control of redox poise in Rhodobacter capsulatus strains deficient in the Calvin-Benson-Bassham pathway. Archives of Microbiology, 2000, 174, 322-333.	2.2	64
69	Induction of carbon monoxide dehydrogenase to facilitate redox balancing in a ribulose bisphosphate carboxylase/oxygenase-deficient mutant strain of Rhodospirillum rubrum. Archives of Microbiology, 2000, 173, 193-199.	2.2	12
70	Multiple regulators and their interactions in vivo and in vitro with the cbb regulons of Rhodobacter capsulatus11Edited by N.-H. Chua. Journal of Molecular Biology, 2000, 300, 1079-1099.	4.2	55
71	Evidence for a cladeâ€specific temporal and spatial separation in ribulose bisphosphate carboxylase gene expression in phytoplankton populations off Cape Hatteras and Bermuda. Limnology and Oceanography, 1999, 44, 12-23.	3.1	32
72	Microbial ribulose 1,5-bisphosphate carboxylase/oxygenase: A different perspective. Photosynthesis Research, 1999, 60, 1-28.	2.9	315

#	Article	IF	Citations
73	Inactivation of the monocistronic rca gene in Anabaena variabilis suggests a physiological ribulose bisphosphate carboxylase/oxygenase activase-like function in heterocystous cyanobacteria. Plant Molecular Biology, 1999, 40, 467-478.	3.9	32
74	The â€œGreenâ€•Form I Ribulose 1,5-Bisphosphate Carboxylase/Oxygenase from the Nonsulfur Purple Bacterium Rhodobacter capsulatus. Journal of Bacteriology, 1999, 181, 3935-3941.	2.2	20
75	Unusual Ribulose 1,5-Bisphosphate Carboxylase/Oxygenase of Anoxic Archaea. Journal of Bacteriology, 1999, 181, 1569-1575.	2.2	105
76	Rhodobacter capsulatus genes encoding form I ribulose-1,5-bisphosphate carboxylase/oxygenase (cbbLS) and neighbouring genes were acquired by a horizontal gene transfer. Microbiology (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	gB	46
77	Physiological Control and Regulation of the Rhodobacter capsulatus cbb Operons. Journal of Bacteriology, 1998, 180, 4258-4269.	2.2	59
78	Expression of glnB and a glnB -Like Gene (glnK) in a Ribulose Bisphosphate Carboxylase/Oxygenase-Deficient Mutant of Rhodobacter sphaeroides. Journal of Bacteriology, 1998, 180, 4644-4649.	2.2	32
79	Two Functionally Distinct Regions Upstream of the cbb I Operon of Rhodobacter sphaeroides Regulate Gene Expression. Journal of Bacteriology, 1998, 180, 4903-4911.	2.2	31
80	Regulation, unique gene organization, and unusual primary structure of carbon fixation genes from a marine phycoerythrin-containing cyanobacterium. Plant Molecular Biology, 1996, 32, 1103-1115.	3.9	50
81	Expression of thecbbLcbbS andcbbM genes and distinct organization of thecbb Calvin cycle structural genes ofRhodobacter capsulatus. Archives of Microbiology, 1995, 164, 396-405.	2.2	39
82	The Biochemistry and Metabolic Regulation of Carbon Metabolism and CO2 Fixation in Purple Bacteria. , 1995, , 885-914.		58
83	The Biochemistry and Molecular Regulation of Carbon Dioxide Metabolism in Cyanobacteria. , 1994, , 437-467.		39
84	The Rubisco activase (rca) gene is located downstream from rbcS in Anabaena sp. strain CA and is detected in other Anabaena/Nostoc strains. Plant Molecular Biology, 1993, 21, 753-764.	3.9	39
85	A hybrid ribulose bisphosphate carboxylase/oxygenase enzyme exhibiting a substantial increase in substrate specificity factor. Biochemistry, 1992, 31, 5553-5560.	2.5	77
86	Amino acid substitutions in the small subunit of ribulose-1,5-bisphosphate carboxylase/oxygenase that influence catalytic activity of the holoenzyme. Biochemistry, 1992, 31, 519-525.	2.5	51
87	Uniform designation for genes of the Calvin-Benson-Bassham reductive pentose phosphate pathway of bacteria. FEMS Microbiology Letters, 1992, 99, 107-110.	1.8	36
88	Uniform designation for genes of the Calvin-Benson-Bassham reductive pentose phosphate pathway of bacteria. FEMS Microbiology Letters, 1992, 99, 107-110.	1.8	1
89	The form II fructose 1,6-bisphosphatase and phosphoribulokinase genes form part of a large operon in Rhodobacter sphaeroides: primary structure and insertional mutagenesis analysis. Biochemistry, 1990, 29, 8085-8093.	2.5	75
90	Purification of recombinant ribulose-1,5-bisphosphate carboxylase/oxygenase large subunits suitable for reconstitution and assembly of active L8S8 enzyme. Biochemistry, 1990, 29, 9352-9357.	2.5	36

#	Article	IF	Citations
91	Cloning and expression in Escherichia coli of the form II ribulose 1,5-bisphosphate carboxylase/ oxygenase gene from Rhodopseudomonas sphaeroides. Gene, 1984, 31, 91-101.	2.2	57
92	d-Ribulose 1,5-Diphosphate Carboxylase from Rhodospirillum rubrum. Journal of Biological Chemistry, 1974, 249, 3453-3458.	3.4	117
93	d-Ribulose 1,5-Diphosphate Carboxylase from Rhodospirillum rubrum. Journal of Biological Chemistry, 1974, 249, 3459-3464.	3.4	186