Matthew C Posewitz

List of Publications by Year
in descending order

88 papers	10,475 citations	66234 42 h-index	56606 83 g-index
88 all docs	88 docs citations	88 times ranked	9610 citing authors

#	Article	IF	Citations
1	Genetic Engineering of Algae for Enhanced Biofuel Production. Eukaryotic Cell, 2010, 9, 486-501.	3.4	969
2	Immobilized Gallium(III) Affinity Chromatography of Phosphopeptides. Analytical Chemistry, 1999, 71, 2883-2892.	3.2	958
3	The Marine Microbial Eukaryote Transcriptome Sequencing Project (MMETSP): Illuminating the Functional Diversity of Eukaryotic Life in the Oceans through Transcriptome Sequencing. PLoS Biology, 2014, 12, e1001889.	2.6	885
4	Aquatic phototrophs: efficient alternatives to land-based crops for biofuels. Current Opinion in Biotechnology, 2008, 19, 235-240.	3.3	620
5	Draft genome sequence and genetic transformation of the oleaginous alga Nannochloropsis gaditana. Nature Communications, 2012, 3, 686.	5.8	438
6	Engineering algae for biohydrogen and biofuel production. Current Opinion in Biotechnology, 2009, 20, 264-271.	3.3	391
7	Cyanophora paradoxa Genome Elucidates Origin of Photosynthesis in Algae and Plants. Science, 2012, 335, 843-847.	6.0	371
8	Discovery of Two Novel Radical S-Adenosylmethionine Proteins Required for the Assembly of an Active [Fe] Hydrogenase. Journal of Biological Chemistry, 2004, 279, 25711-25720.	1.6	368
9	Hydrogenases and Hydrogen Photoproduction in Oxygenic Photosynthetic Organisms. Annual Review of Plant Biology, 2007, 58, 71-91.	8.6	330
10	Ultrastructure and Composition of the Nannochloropsis gaditana Cell Wall. Eukaryotic Cell, 2014, 13, 1450-1464.	3.4	322
11	Increased Lipid Accumulation in the Chlamydomonas reinhardtii sta7-10 Starchless Isoamylase Mutant and Increased Carbohydrate Synthesis in Complemented Strains. Eukaryotic Cell, 2010, 9, 1251-1261.	3.4	317
12	Maturation of Hydrogenases. Advances in Microbial Physiology, 2006, 51, 1-225.	1.0	307
13	Functional Studies of [FeFe] Hydrogenase Maturation in an Escherichia coli Biosynthetic System. Journal of Bacteriology, 2006, 188, 2163-2172.	1.0	300
14	Anaerobic Acclimation in Chlamydomonas reinhardtii. Journal of Biological Chemistry, 2007, 282, 25475-25486.	1.6	270
15	Genetic engineering of fatty acid chain length in Phaeodactylum tricornutum. Metabolic Engineering, 2011, 13, 89-95.	3.6	233
16	Engineering Limonene and Bisabolene Production in Wild Type and a Glycogen-Deficient Mutant of Synechococcus sp. PCC 7002. Frontiers in Bioengineering and Biotechnology, 2014, 2, 21.	2.0	230
17	Insights into [FeFe]-Hydrogenase Structure, Mechanism, and Maturation. Structure, 2011, 19, 1038-1052.	1.6	220
18	Hydrogen Photoproduction Is Attenuated by Disruption of an Isoamylase Gene in Chlamydomonas reinhardtii. Plant Cell, 2004, 16, 2151-2163.	3.1	155

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19	Novel metabolism in Chlamydomonas through the lens of genomics. Current Opinion in Plant Biology, 2007, 10, 190-198.	3.5	149
20	HydF as a scaffold protein in [FeFe] hydrogenase Hâ€cluster biosynthesis. FEBS Letters, 2008, 582, 2183-2187.	1.3	122
21	X-ray Structure of the [FeFe]-Hydrogenase Maturase HydE from Thermotoga maritima. Journal of Biological Chemistry, 2008, 283, 18861-18872.	1.6	119
22	In vitro activation of [FeFe] hydrogenase: new insights into hydrogenase maturation. Journal of Biological Inorganic Chemistry, 2007, 12, 443-447.	1.1	109
23	Fermentation metabolism and its evolution in algae. Frontiers in Plant Science, 2013, 4, 150.	1.7	101
24	Genetic disruption of both Chlamydomonas reinhardtii [FeFe]-hydrogenases: Insight into the role of HYDA2 in H2 production. Biochemical and Biophysical Research Communications, 2012, 417, 704-709.	1.0	97
25	Flexibility in Anaerobic Metabolism as Revealed in a Mutant of Chlamydomonas reinhardtii Lacking Hydrogenase Activity. Journal of Biological Chemistry, 2009, 284, 7201-7213.	1.6	96
26	Multiple facets of anoxic metabolism and hydrogen production in the unicellular green alga Chlamydomonas reinhardtii. New Phytologist, 2011, 190, 279-288.	3.5	94
27	The production of the sesquiterpene Î²-caryophyllene in a transgenic strain of the cyanobacterium Synechocystis. Journal of Plant Physiology, 2011, 168, 848-852.	1.6	89
28	Properties of the Sp1 Zinc Finger 3 Peptide: Coordination Chemistry, Redox Reactions, and Metal Binding Competition with Metallothionein. Chemical Research in Toxicology, 1995, 8, 1020-1028.	1.7	87
29	Genomic insights from the oleaginous model alga Nannochloropsis gaditana. Bioengineered, 2013, 4, 37-43.	1.4	84
30	Improving photosynthesis and metabolic networks for the competitive production of phototroph-derived biofuels. Current Opinion in Biotechnology, 2012, 23, 290-297.	3.3	78
31	Toward a photosynthetic microbial platform for terpenoid engineering. Photosynthesis Research, 2015, 123, 265-284.	1.6	78
32	Phenotypic diversity of hydrogen production in chlorophycean algae reflects distinct anaerobic metabolisms. Journal of Biotechnology, 2009, 142, 21-30.	1.9	70
33	Contrasting Patterns of Community Assembly in the Stratified Water Column of Great Salt Lake, Utah. Microbial Ecology, 2013, 66, 268-280.	1.4	64
34	A Mutant in the ADH1 Gene of Chlamydomonas reinhardtii Elicits Metabolic Restructuring during Anaerobiosis Â. Plant Physiology, 2012, 158, 1293-1305.	2.3	60
35	Altered Fermentative Metabolism in Chlamydomonas reinhardtii Mutants Lacking Pyruvate Formate Lyase and Both Pyruvate Formate Lyase and Alcohol Dehydrogenase. Plant Cell, 2012, 24, 692-707.	3.1	58
36	Critical role ofChlamydomonas reinhardtiiferredoxin-5 in maintaining membrane structure and dark metabolism. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14978-14983.	3.3	58

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37	Development of a high-productivity, halophilic, thermotolerant microalga Picochlorum renovo. Communications Biology, 2019, 2, 388.	2.0	58
38	Presence of a Copper(I)â^'Thiolate Regulatory Domain in the Copper-Activated Transcription Factor Amt1â€. Biochemistry, 1996, 35, 14583-14589.	1.2	53
39	Mapping of the DNA Binding Domain of the Copper-responsive Transcription Factor Mac1 from Saccharomyces cerevisiae. Journal of Biological Chemistry, 1998, 273, 23805-23811.	1.6	50
40	Evolutionary significance of an algal gene encoding an [FeFe]-hydrogenase with F-domain homology and hydrogenase activity in Chlorella variabilis NC64A. Planta, 2011, 234, 829-843.	1.6	50
41	Metabolic and photosynthetic consequences of blocking starch biosynthesis in the green alga <scp>C</scp>hlamydomonas reinhardtii sta6 mutant. Plant Journal, 2015, 81, 947-960.	2.8	49
42	Algae after dark: mechanisms to cope with anoxic/hypoxic conditions. Plant Journal, 2015, 82, 481-503.	2.8	46
43	Alternative Acetate Production Pathways inChlamydomonas reinhardtiiduring Dark Anoxia and the Dominant Role of Chloroplasts in Fermentative Acetate Production. Plant Cell, 2014, 26, 4499-4518.	3.1	44
44	Alternative outlets for sustaining photosynthetic electron transport during dark-to-light transitions. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 11518-11527.	3.3	42
45	Establishment of a bioenergy-focused microalgal culture collection. Algal Research, 2012, 1, 102-113.	2.4	40
46	Solution structure of a zinc domain conserved in yeast copper-regulated transcription factors. Nature Structural Biology, 1998, 5, 551-555.	9.7	39
47	Application of gene-shuffling for the rapid generation of novel [FeFe]-hydrogenase libraries. Biotechnology Letters, 2007, 29, 421-430.	1.1	38
48	Unlocking the Constraints of Cyanobacterial Productivity: Acclimations Enabling Ultrafast Growth. MBio, 2016, 7, .	1.8	38
49	High-light selection produces a fast-growing Picochlorum celeri. Algal Research, 2018, 36, 17-28.	2.4	36
50	Design of a new biosensor for algal H2 production based on the H2-sensing system of Rhodobacter capsulatus. International Journal of Hydrogen Energy, 2011, 36, 11229-11237.	3.8	34
51	Crystal Structure of HydF Scaffold Protein Provides Insights into [FeFe]-Hydrogenase Maturation. Journal of Biological Chemistry, 2011, 286, 43944-43950.	1.6	32
52	Picochlorum celeri as a model system for robust outdoor algal growth in seawater. Scientific Reports, 2021, 11, 11649.	1.6	30
53	Dynamics of Photosynthesis in a Glycogen-Deficient glgC Mutant of Synechococcus sp. Strain PCC 7002. Applied and Environmental Microbiology, 2015, 81, 6210-6222.	1.4	29
54	Growth of Chlamydomonas reinhardtii in acetate-free medium when co-cultured with alginate-encapsulated, acetate-producing strains of Synechococcus sp. PCC 7002. Biotechnology for Biofuels, 2014, 7, 154.	6.2	28

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55	Expression of a clostridial [FeFe]-hydrogenase in Chlamydomonas reinhardtii prolongs photo-production of hydrogen from water splitting. Algal Research, 2017, 22, 116-121.	2.4	28
56	Adaptive Laboratory Evolution for algal strain improvement: methodologies and applications. Algal Research, 2021, 53, 102122.	2.4	27
57	Nitrogen recycling from fuel-extracted algal biomass: Residuals as the sole nitrogen source for culturing Scenedesmus acutus. Bioresource Technology, 2015, 184, 153-160.	4.8	26
58	Lauric Acid Production in a Glycogen-Less Strain of Synechococcus sp. PCC 7002. Frontiers in Bioengineering and Biotechnology, 2015, 3, 48.	2.0	25
59	Genome editing using Cas9-RNA ribonucleoprotein complexes in the high-productivity marine alga Picochlorum celeri. Algal Research, 2020, 49, 101944.	2.4	24
60	Evolutionary and Biotechnological Implications of Robust Hydrogenase Activity in Halophilic Strains of Tetraselmis. PLoS ONE, 2014, 9, e85812.	1.1	21
61	Characterization of the Nannochloropsis gaditana storage carbohydrate: A 1,3-beta glucan with limited 1,6-branching. Algal Research, 2018, 36, 152-158.	2.4	21
62	Improving biofuel production in phototrophic microorganisms with systems biology. Biofuels, 2011, 2, 125-144.	1.4	20
63	Biocommodities from photosynthetic microorganisms. Environmental Progress and Sustainable Energy, 2013, 32, 989-1001.	1.3	20
64	Down-Selection and Outdoor Evaluation of Novel, Halotolerant Algal Strains for Winter Cultivation. Frontiers in Plant Science, 2018, 9, 1513.	1.7	19
65	Profiling Chlamydomonas Metabolism under Dark, Anoxic H₂-Producing Conditions Using a Combined Proteomic, Transcriptomic, and Metabolomic Approach. Journal of Proteome Research, 2014, 13, 5431-5451.	1.8	18
66	Hydrogenases, Hydrogen Production, and Anoxia. , 2009, , 217-255.		17
67	[FeFe]-Hydrogenase Abundance and Diversity along a Vertical Redox Gradient in Great Salt Lake, USA. International Journal of Molecular Sciences, 2014, 15, 21947-21966.	1.8	17
68	Photosynthetic Water-Splitting for Hydrogen Production. , 0, , 273-291.		15
69	Biochemical and Structural Properties of a Thermostable Mercuric Ion Reductase from Metallosphaera sedula. Frontiers in Bioengineering and Biotechnology, 2015, 3, 97.	2.0	14
70	Sensors that mediate copper-specific activation and repression of gene expression. Journal of Biological Inorganic Chemistry, 1997, 2, 2-10.	1.1	13
71	Pigment modulation in response to irradiance intensity in the fast-growing alga Picochlorum celeri. Algal Research, 2021, 58, 102370.	2.4	12
72	Novel FixL homologues in Chlamydomonas reinhardtii bind heme and O₂. FEBS Letters, 2012, 586, 4282-4288.	1.3	11

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73	Modulation of Medium-Chain Fatty Acid Synthesis in Synechococcus sp. PCC 7002 by Replacing FabH with a Chaetoceros Ketoacyl-ACP Synthase. Frontiers in Plant Science, 2016, 7, 690.	1.7	11
74	Phased Diploid Genome Sequence for the Fast-Growing Microalga Picochlorum celeri. Microbiology Resource Announcements, 2020, 9, .	0.3	10
75	Biochemical and Structural Characterization of Enolase from Chloroflexus aurantiacus: Evidence for a Thermophilic Origin. Frontiers in Bioengineering and Biotechnology, 2015, 3, 74.	2.0	9
76	Algal oil productivity gets a fat bonus. Nature Biotechnology, 2017, 35, 636-638.	9.4	9
77	Effectiveness of cationically modified cellulose polymers for dewatering algae. Separation Science and Technology, 2016, 51, 892-898.	1.3	8
78	Hydrogenases, Nitrogenases, Anoxia, and H2 Production in Water-Oxidizing Phototrophs. , 2013, , 37-75.		7
79	The complete mitogenome and plastome of the haptophyte Pavlova lutheri NIVA-4/92. Mitochondrial DNA Part B: Resources, 2020, 5, 2748-2749.	0.2	7
80	The Genome of the Haptophyte Diacronema lutheri (Pavlova lutheri, Pavlovales): A Model for Lipid Biosynthesis in Eukaryotic Algae. Genome Biology and Evolution, 2021, 13, .	1.1	7
81	New Frontiers in Hydrogenase Structure and Biosynthesis. Current Chemical Biology, 2008, 2, 178-199.	0.2	6
82	Role of the conserved histidines in the Zn module of the copper-activated transcription factors in yeast. Journal of Biological Inorganic Chemistry, 1996, 1, 560-566.	1.1	5
83	Engineering pathways to biofuels in photoautotrophic microorganisms. Biofuels, 2014, 5, 67-78.	1.4	5
84	CRISPR/Cas9 disruption of glucan synthase in Nannochloropsis gaditana attenuates accumulation of Î²-1,3-glucose oligomers. Algal Research, 2021, 58, 102385.	2.4	5
85	Interaction of metallothionein with the carcinogenic metals Ni(II), Cr(VI) and As(III). , 1999, , 585-594.		2
86	Insights into Algal Fermentation. Plant Cell Monographs, 2014, , 135-163.	0.4	2
87	Microbial hydrocarbons: back to the future. Biofuels, 2012, 3, 103-105.	1.4	1
88	7 Hydrogenase evolution and function in eukaryotic algae. , 2015, , 145-172.		0