James C Liao

List of Publications by Citations

262 papers	20,469 citations	78 h-index	139 g-index
278 ext. papers	22,416 ext. citations	9 avg, IF	7.16 L-index

#	Paper	IF	Citations
262	Non-fermentative pathways for synthesis of branched-chain higher alcohols as biofuels. *Nature*, **2008**, 451, 86-9	50.4	1488
261	Metabolic engineering of Escherichia coli for 1-butanol production. *Metabolic Engineering*, **2008**, 10, 305-11	9.7	686
260	Direct photosynthetic recycling of carbon dioxide to isobutyraldehyde. *Nature Biotechnology*, **2009**, 27, 1177-80	44.5	675
259	Driving forces enable high-titer anaerobic 1-butanol synthesis in Escherichia coli. *Applied and Environmental Microbiology*, **2011**, 77, 2905-15	4.8	520
258	Network component analysis: reconstruction of regulatory signals in biological systems. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 15522-7	11.5	462
257	Integrated electromicrobial conversion of CO2 to higher alcohols. *Science*, **2012**, 335, 1596	33.3	457
256	Improving lycopene production in Escherichia coli by engineering metabolic control. *Nature Biotechnology*, **2000**, 18, 533-7	44.5	433
255	Issues in cDNA microarray analysis: quality filtering, channel normalization, models of variations and assessment of gene effects. *Nucleic Acids Research*, **2001**, 29, 2549-57	20.1	410
254	Fuelling the future: microbial engineering for the production of sustainable biofuels. *Nature Reviews Microbiology*, **2016**, 14, 288-304	22.2	383
253	Expanding metabolism for biosynthesis of nonnatural alcohols. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 20653-8	11.5	326
252	Metabolic engineering of cyanobacteria for 1-butanol production from carbon dioxide. *Metabolic Engineering*, **2011**, 13, 353-63	9.7	314
251	A synthetic gene-metabolic oscillator. *Nature*, **2005**, 435, 118-22	50.4	314
250	Metabolic engineering of Escherichia coli for 1-butanol and 1-propanol production via the keto-acid pathways. *Metabolic Engineering*, **2008**, 10, 312-20	9.7	312
249	ATP drives direct photosynthetic production of 1-butanol in cyanobacteria. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 6018-23	11.5	293
248	Design and characterization of synthetic fungal-bacterial consortia for direct production of isobutanol from cellulosic biomass. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 14592-7	11.5	290
247	Engineering Corynebacterium glutamicum for isobutanol production. *Applied Microbiology and Biotechnology*, **2010**, 87, 1045-55	5.7	272
246	Intravascular flow decreases erythrocyte consumption of nitric oxide. *Proceedings of the National Academy of Sciences of the United States of America*, **1999**, 96, 8757-61	11.5	263

245	Metabolic engineering for advanced biofuels production from Escherichia coli. *Current Opinion in Biotechnology*, **2008**, 19, 414-9	11.4	252
244	Metabolic engineering of Clostridium cellulolyticum for production of isobutanol from cellulose. *Applied and Environmental Microbiology*, **2011**, 77, 2727-33	4.8	241
243	Engineering the isobutanol biosynthetic pathway in Escherichia coli by comparison of three aldehyde reductase/alcohol dehydrogenase genes. *Applied Microbiology and Biotechnology*, **2010**, 85, 651-7	5.7	241
242	Synthetic non-oxidative glycolysis enables complete carbon conservation. *Nature*, **2013**, 502, 693-7	50.4	233
241	Conversion of proteins into biofuels by engineering nitrogen flux. *Nature Biotechnology*, **2011**, 29, 346-51	14.5	232
240	Engineered synthetic pathway for isopropanol production in Escherichia coli. *Applied and Environmental Microbiology*, **2007**, 73, 7814-8	4.8	225
239	Global expression profiling of acetate-grown Escherichia coli. *Journal of Biological Chemistry*, **2002**, 277, 13175-83	5.4	225
238	Evolution, genomic analysis, and reconstruction of isobutanol tolerance in Escherichia coli. *Molecular Systems Biology*, **2010**, 6, 449	12.2	216
237	Directed evolution of Methanococcus jannaschii citramalate synthase for biosynthesis of 1-propanol and 1-butanol by Escherichia coli. *Applied and Environmental Microbiology*, **2008**, 74, 7802-8	4.8	202
236	Estimation of nitric oxide production and reaction rates in tissue by use of a mathematical model. *American Journal of Physiology - Heart and Circulatory Physiology*, **1998**, 274, H2163-76	5.2	195
235	Ensemble modeling of metabolic networks. *Biophysical Journal*, **2008**, 95, 5606-17	2.9	190
234	High-flux isobutanol production using engineered Escherichia coli: a bioreactor study with in situ product removal. *Applied Microbiology and Biotechnology*, **2011**, 90, 1681-90	5.7	183
233	Erythrocytes possess an intrinsic barrier to nitric oxide consumption. *Journal of Biological Chemistry*, **2000**, 275, 2342-8	5.4	181
232	Nitric oxide is consumed, rather than conserved, by reaction with oxyhemoglobin under physiological conditions. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 10341-6	11.5	180
231	Single-gene disorders: what role could moonlighting enzymes play?. *American Journal of Human Genetics*, **2005**, 76, 911-24	11	168
230	Microbial production of advanced transportation fuels in non-natural hosts. *Current Opinion in Biotechnology*, **2009**, 20, 307-15	11.4	165
229	Precursor balancing for metabolic engineering of lycopene production in Escherichia coli. *Biotechnology Progress*, **2001**, 17, 57-61	2.8	165
228	Microbial synthesis of n-butanol, isobutanol, and other higher alcohols from diverse resources. *Bioresource Technology*, **2013**, 135, 339-49	11	157

227	An integrated network approach identifies the isobutanol response network of Escherichia coli. *Molecular Systems Biology*, **2009**, 5, 277	12.2	155
226	Escherichia coli as a host for metabolic engineering. *Metabolic Engineering*, **2018**, 50, 16-46	9.7	153
225	Modulation of nitric oxide bioavailability by erythrocytes. *Proceedings of the National Academy of Sciences of the United States of America*, **2001**, 98, 11771-6	11.5	151
224	Pathway analysis, engineering, and physiological considerations for redirecting central metabolism. *Biotechnology and Bioengineering*, **1996**, 52, 129-40	4.9	147
223	Improvement of isopropanol production by metabolically engineered Escherichia coli using gas stripping. *Journal of Bioscience and Bioengineering*, **2010**, 110, 696-701	3.3	142
222	Design of artificial cell-cell communication using gene and metabolic networks. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 2299-304	11.5	137
221	Production of 2-methyl-1-butanol in engineered Escherichia coli. *Applied Microbiology and Biotechnology*, **2008**, 81, 89-98	5.7	136
220	Engineered isoprenoid pathway enhances astaxanthin production in Escherichia coli. *Biotechnology and Bioengineering*, **1999**, 62, 235-41	4.9	136
219	Engineering of an Escherichia coli strain for the production of 3-methyl-1-butanol. *Applied and Environmental Microbiology*, **2008**, 74, 5769-75	4.8	132
218	A kinetic model of Escherichia coli core metabolism satisfying multiple sets of mutant flux data. *Metabolic Engineering*, **2014**, 25, 50-62	9.7	131
217	3-Methyl-1-butanol production in Escherichia coli: random mutagenesis and two-phase fermentation. *Applied Microbiology and Biotechnology*, **2010**, 86, 1155-64	5.7	130
216	Next generation biofuel engineering in prokaryotes. *Current Opinion in Chemical Biology*, **2013**, 17, 462-71	9.7	129
215	Oxygen-tolerant coenzyme A-acylating aldehyde dehydrogenase facilitates efficient photosynthetic n-butanol biosynthesis in cyanobacteria. *Energy and Environmental Science*, **2013**, 6, 2672	35.4	128
214	Effective diffusion distance of nitric oxide in the microcirculation. *American Journal of Physiology - Heart and Circulatory Physiology*, **1998**, 274, H1705-14	5.2	128
213	Engineering synergy in biotechnology. *Nature Chemical Biology*, **2014**, 10, 319-22	11.7	126
212	Arginase modulates nitric oxide production in activated macrophages. *American Journal of Physiology - Heart and Circulatory Physiology*, **1998**, 274, H342-8	5.2	121
211	Consolidated bioprocessing of cellulose to isobutanol using Clostridium thermocellum. *Metabolic Engineering*, **2015**, 31, 44-52	9.7	119
210	Expanding metabolism for total biosynthesis of the nonnatural amino acid L-homoalanine. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 6234-9	11.5	118

209	Integrated network analysis identifies nitric oxide response networks and dihydroxyacid dehydratase as a crucial target in Escherichia coli. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 8484-9	11.5	117
208	Engineering a synthetic pathway in cyanobacteria for isopropanol production directly from carbon dioxide and light. *Metabolic Engineering*, **2013**, 20, 101-8	9.7	115
207	A selection platform for carbon chain elongation using the CoA-dependent pathway to produce linear higher alcohols. *Metabolic Engineering*, **2012**, 14, 504-11	9.7	112
206	Extending carbon chain length of 1-butanol pathway for 1-hexanol synthesis from glucose by engineered Escherichia coli. *Journal of the American Chemical Society*, **2011**, 133, 11399-401	16.4	110
205	Pathway engineering for production of aromatics in Escherichia coli: Confirmation of stoichiometric analysis by independent modulation of AroG, TktA, and Pps activities. *Biotechnology and Bioengineering*, **1995**, 46, 361-70	4.9	110
204	Dynamic Cell and Microparticle Control via Optoelectronic Tweezers. *Journal of Microelectromechanical Systems*, **2007**, 16, 491-499	2.5	109
203	Gene expression profiling by DNA microarrays and metabolic fluxes in Escherichia coli. *Biotechnology Progress*, **2000**, 16, 278-86	2.8	109
202	Transcriptome-based determination of multiple transcription regulator activities in Escherichia coli by using network component analysis. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 641-6	11.5	108
201	Enantioselective synthesis of pure (R,R)-2,3-butanediol in Escherichia coli with stereospecific secondary alcohol dehydrogenases. *Organic and Biomolecular Chemistry*, **2009**, 7, 3914-7	3.9	103
200	A synthetic recursive "+1" pathway for carbon chain elongation. *ACS Chemical Biology*, **2012**, 7, 689-97	4.9	99
199	Co-expression pattern from DNA microarray experiments as a tool for operon prediction. *Nucleic Acids Research*, **2002**, 30, 2886-93	20.1	98
198	Pentanol isomer synthesis in engineered microorganisms. *Applied Microbiology and Biotechnology*, **2010**, 85, 893-9	5.7	97
197	Combined inactivation of the Clostridium cellulolyticum lactate and malate dehydrogenase genes substantially increases ethanol yield from cellulose and switchgrass fermentations. *Biotechnology for Biofuels*, **2012**, 5, 2	7.8	96
196	Directed evolution of metabolically engineered Escherichia coli for carotenoid production. *Biotechnology Progress*, **2000**, 16, 922-6	2.8	93
195	Photosynthetic production of 2-methyl-1-butanol from CO_2 in cyanobacterium Synechococcus elongatus PCC7942 and characterization of the native acetohydroxyacid synthase. *Energy and Environmental Science*, **2012**, 5, 9574	35.4	92
194	An evolutionary strategy for isobutanol production strain development in Escherichia coli. *Metabolic Engineering*, **2011**, 13, 674-81	9.7	92
193	Engineering a cyanobacterium as the catalyst for the photosynthetic conversion of CO_2 to 1,2-propanediol. *Microbial Cell Factories*, **2013**, 12, 4	6.4	91
192	Downregulation of endothelial constitutive nitric oxide synthase expression by lipopolysaccharide. *Biochemical and Biophysical Research Communications*, **1996**, 225, 1-5	3.4	91

191	Isobutanol production as an alternative metabolic sink to rescue the growth deficiency of the glycogen mutant of Synechococcus elongatus PCC 7942. *Photosynthesis Research*, **2014**, 120, 301-10	3.7	88
190	Building carbon-carbon bonds using a biocatalytic methanol condensation cycle. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 15928-33	11.5	87
189	Nitric oxide reaction with red blood cells and hemoglobin under heterogeneous conditions. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 7763-8	11.5	85
188	Isobutanol production at elevated temperatures in thermophilic Geobacillus thermoglucosidasius. *Metabolic Engineering*, **2014**, 24, 1-8	9.7	82
187	Engineering metabolic systems for production of advanced fuels. *Journal of Industrial Microbiology and Biotechnology*, **2009**, 36, 471-9	4.2	82
186	Stimulation of glucose catabolism in Escherichia coli by a potential futile cycle. *Journal of Bacteriology*, **1992**, 174, 7527-32	3.5	80
185	gNCA: a framework for determining transcription factor activity based on transcriptome: identifiability and numerical implementation. *Metabolic Engineering*, **2005**, 7, 128-41	9.7	79
184	Metabolic engineering of isoprenoids. *Metabolic Engineering*, **2001**, 3, 27-39	9.7	78
183	Control of gluconeogenic growth by pps and pck in Escherichia coli. *Journal of Bacteriology*, **1993**, 175, 6939-44	3.5	78
182	DNA microarray detection of metabolic responses to protein overproduction in Escherichia coli. *Metabolic Engineering*, **2000**, 2, 201-9	9.7	76
181	Erythrocyte consumption of nitric oxide: competition experiment and model analysis. *Nitric Oxide - Biology and Chemistry*, **2001**, 5, 18-31	5	76
180	Acetolactate synthase from Bacillus subtilis serves as a 2-ketoisovalerate decarboxylase for isobutanol biosynthesis in Escherichia coli. *Applied and Environmental Microbiology*, **2009**, 75, 6306-11	4.8	75
179	Metabolic engineering of cyanobacteria for photosynthetic 3-hydroxypropionic acid production from CO2 using Synechococcus elongatus PCC 7942. *Metabolic Engineering*, **2015**, 31, 163-70	9.7	71
178	oxLDL specifically impairs endothelium-dependent, NO-mediated dilation of coronary arterioles. *American Journal of Physiology - Heart and Circulatory Physiology*, **2000**, 278, H175-83	5.2	71
177	Consolidated conversion of protein waste into biofuels and ammonia using Bacillus subtilis. *Metabolic Engineering*, **2014**, 23, 53-61	9.7	70
176	Ensemble Modeling for Robustness Analysis in engineering non-native metabolic pathways. *Metabolic Engineering*, **2014**, 25, 63-71	9.7	68
175	Metabolomics-driven approach to solving a CoA imbalance for improved 1-butanol production in Escherichia coli. *Metabolic Engineering*, **2017**, 41, 135-143	9.7	65
174	Biological conversion of carbon dioxide to photosynthetic fuels and electrofuels. *Energy and Environmental Science*, **2013**, 6, 2892	35.4	65

173	Advances in Metabolic Control Analysis. *Biotechnology Progress*, **1993**, 9, 221-233	2.8	65
172	Frontiers in microbial 1-butanol and isobutanol production. *FEMS Microbiology Letters*, **2016**, 363, fnw020	2.9	63
171	A global regulatory role of gluconeogenic genes in Escherichia coli revealed by transcriptome network analysis. *Journal of Biological Chemistry*, **2005**, 280, 36079-87	5.4	63
170	Differential association of hemoglobin with proinflammatory high density lipoproteins in atherogenic/hyperlipidemic mice. A novel biomarker of atherosclerosis. *Journal of Biological Chemistry*, **2007**, 282, 23698-707	5.4	61
169	Converting Escherichia coli to a Synthetic Methylotroph Growing Solely on Methanol. *Cell*, **2020**, 182, 933-946.e14	56.2	60
168	Single-cell zeroth-order protein degradation enhances the robustness of synthetic oscillator. *Molecular Systems Biology*, **2007**, 3, 130	12.2	59
167	Ensemble modeling for strain development of L-lysine-producing Escherichia coli. *Metabolic Engineering*, **2009**, 11, 221-33	9.7	58
166	Inverse flux analysis for reduction of acetate excretion in Escherichia coli. *Biotechnology Progress*, **1997**, 13, 361-7	2.8	58
165	Rational engineering of diol dehydratase enables 1,4-butanediol biosynthesis from xylose. *Metabolic Engineering*, **2017**, 40, 148-156	9.7	56
164	Integrative genomic mining for enzyme function to enable engineering of a non-natural biosynthetic pathway. *Nature Communications*, **2015**, 6, 10005	17.4	56
163	Construction and evolution of an strain relying on nonoxidative glycolysis for sugar catabolism. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 3538-3546	11.5	53
162	A modified serine cycle in Escherichia coli coverts methanol and CO to two-carbon compounds. *Nature Communications*, **2018**, 9, 3992	17.4	53
161	Synergy as design principle for metabolic engineering of 1-propanol production in Escherichia coli. *Metabolic Engineering*, **2013**, 17, 12-22	9.7	52
160	Inferring yeast cell cycle regulators and interactions using transcription factor activities. *BMC Genomics*, **2005**, 6, 90	4.5	52
159	Biofuels: biomolecular engineering fundamentals and advances. *Annual Review of Chemical and Biomolecular Engineering*, **2010**, 1, 19-36	8.9	51
158	Synthetic methanol auxotrophy of Escherichia coli for methanol-dependent growth and production. *Metabolic Engineering*, **2018**, 49, 257-266	9.7	50
157	Transcriptome network component analysis with limited microarray data. *Bioinformatics*, **2006**, 22, 1886-94	7.4	49
156	Regulation of nitric oxide consumption by hypoxic red blood cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 12504-9	11.5	49

155	Heat shock response of Archaeoglobus fulgidus. *Journal of Bacteriology*, **2005**, 187, 6046-57	3.5	47
154	A reverse glyoxylate shunt to build a non-native route from C4 to C2 in Escherichia coli. *Metabolic Engineering*, **2013**, 19, 116-27	9.7	46
153	Engineering synthetic recursive pathways to generate non-natural small molecules. *Nature Chemical Biology*, **2012**, 8, 518-26	11.7	46
152	Glycerol kinase deficiency alters expression of genes involved in lipid metabolism, carbohydrate metabolism, and insulin signaling. *European Journal of Human Genetics*, **2007**, 15, 646-57	5.3	46
151	Metabolic ensemble modeling for strain engineers. *Biotechnology Journal*, **2012**, 7, 343-53	5.6	45
150	Microbial pathway engineering for industrial processes: evolution, combinatorial biosynthesis and rational design. *Current Opinion in Microbiology*, **2001**, 4, 330-5	7.9	45
149	Toward nitrogen neutral biofuel production. *Current Opinion in Biotechnology*, **2012**, 23, 406-13	11.4	44
148	Reducing the allowable kinetic space by constructing ensemble of dynamic models with the same steady-state flux. *Metabolic Engineering*, **2011**, 13, 60-75	9.7	44
147	Ensemble modeling for aromatic production in Escherichia coli. *PLoS ONE*, **2009**, 4, e6903	3.7	44
146	Augmenting the Calvin-Benson-Bassham cycle by a synthetic malyl-CoA-glycerate carbon fixation pathway. *Nature Communications*, **2018**, 9, 2008	17.4	44
145	Erythrocyte nitric oxide transport reduced by a submembrane cytoskeletal barrier. *Biochimica Et Biophysica Acta - General Subjects*, **2005**, 1723, 135-42	4	43
144	Metabolic engineering and control analysis for production of aromatics: Role of transaldolase. *Biotechnology and Bioengineering*, **1997**, 53, 132-8	4.9	42
143	Characterization and evolution of an activator-independent methanol dehydrogenase from Cupriavidus necator N-1. *Applied Microbiology and Biotechnology*, **2016**, 100, 4969-83	5.7	41
142	Analysis of genomic distributions of SARS-CoV-2 reveals a dominant strain type with strong allelic associations. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 30679-30686	11.5	39
141	CO2-fixing one-carbon metabolism in a cellulose-degrading bacterium Clostridium thermocellum. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 13180-13185	11.5	35
140	Analysis of nitric oxide consumption by erythrocytes in blood vessels using a distributed multicellular model. *Annals of Biomedical Engineering*, **2003**, 31, 294-309	4.7	35
139	Oxidized low-density lipoprotein inhibits nitric oxide-mediated coronary arteriolar dilation by up-regulating endothelial arginase I. *Microcirculation*, **2011**, 18, 36-45	2.9	34
138	Identifying Rate-Controlling Enzymes in Metabolic Pathways without Kinetic Parameters. *Biotechnology Progress*, **1991**, 7, 15-20	2.8	34

137	Protein engineering for metabolic engineering: current and next-generation tools. *Biotechnology Journal*, **2013**, 8, 545-55	5.6	33
136	Lumping analysis of biochemical reaction systems with time scale separation. *Biotechnology and Bioengineering*, **1988**, 31, 869-79	4.9	33
135	Bioengineering of microorganisms for C_1 to C_4 alcohols production. *Biotechnology Journal*, **2010**, 5, 1297-308	5.6	31
134	Determination of the Escherichia coli S-nitrosoglutathione response network using integrated biochemical and systems analysis. *Journal of Biological Chemistry*, **2008**, 283, 5148-57	5.4	31
133	Alteration of product specificity of Rhodobacter sphaeroides phytoene desaturase by directed evolution. *Journal of Biological Chemistry*, **2001**, 276, 41161-4	5.4	31
132	A generalized framework for network component analysis. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, **2005**, 2, 289-301	3	30
131	Targeted disruption of glycerol kinase gene in mice: expression analysis in liver shows alterations in network partners related to glycerol kinase activity. *Human Molecular Genetics*, **2006**, 15, 405-15	5.6	29
130	Resistance to diet-induced obesity in mice with synthetic glyoxylate shunt. *Cell Metabolism*, **2009**, 9, 525-36	21.6	28
129	Control of metabolic pathways by time-scale separation. *BioSystems*, **1995**, 36, 55-70	1.9	28
128	Rhodopseudomonas palustris CGA009 has two functional ppsR genes, each of which encodes a repressor of photosynthesis gene expression. *Biochemistry*, **2006**, 45, 14441-51	3.2	27
127	Protein-based biorefining: metabolic engineering for production of chemicals and fuel with regeneration of nitrogen fertilizers. *Applied Microbiology and Biotechnology*, **2013**, 97, 1397-406	5.7	26
126	Using network component analysis to dissect regulatory networks mediated by transcription factors in yeast. *PLoS Computational Biology*, **2009**, 5, e1000311	5	26
125	Incorporating qualitative knowledge in enzyme kinetic models using fuzzy logic. *Biotechnology and Bioengineering*, **1999**, 62, 722-9	4.9	26
124	Global metabolic effects of glycerol kinase overexpression in rat hepatoma cells. *Molecular Genetics and Metabolism*, **2008**, 93, 145-59	3.7	25
123	Fermentation data analysis and state estimation in the presence of incomplete mass balance. *Biotechnology and Bioengineering*, **1989**, 33, 613-22	4.9	25
122	A perspective of metabolic engineering strategies: moving up the systems hierarchy. *Biotechnology and Bioengineering*, **2003**, 84, 815-21	4.9	24
121	Lipopolysaccharide activates endothelial nitric oxide synthase through protein tyrosine kinase. *Biochemical and Biophysical Research Communications*, **1998**, 245, 33-7	3.4	24
120	Effect of ice nucleators on snow making and spray freezing. *Industrial & Engineering Chemistry Research*, **1990**, 29, 361-366	3.9	24

119	Advances in Consolidated Bioprocessing Using Clostridium thermocellum and Thermoanaerobacter saccharolyticum **2016**, 365-394		24
118	Quantitative target analysis and kinetic profiling of acyl-CoAs reveal the rate-limiting step in cyanobacterial 1-butanol production. *Metabolomics*, **2016**, 12, 26	4.7	23
117	Development of an NADPH-dependent homophenylalanine dehydrogenase by protein engineering. *ACS Synthetic Biology*, **2014**, 3, 13-20	5.7	22
116	A synthetic anhydrotetracycline-controllable gene expression system in Ralstonia eutropha H16. *ACS Synthetic Biology*, **2015**, 4, 101-6	5.7	22
115	Optimization-driven identification of genetic perturbations accelerates the convergence of model parameters in ensemble modeling of metabolic networks. *Biotechnology Journal*, **2013**, 8, 1090-104	5.6	22
114	Kinetic characterization of baculovirus-induced cell death in insect cell cultures. *Biotechnology and Bioengineering*, **1993**, 41, 104-10	4.9	22
113	Characteristic reaction paths of biochemical reaction systems with time scale separation. *Biotechnology and Bioengineering*, **1988**, 31, 847-54	4.9	22
112	Sustainable biorefining in wastewater by engineered extreme alkaliphile Bacillus marmarensis. *Scientific Reports*, **2016**, 6, 20224	4.9	22
111	An agar gel membrane-PDMS hybrid microfluidic device for long term single cell dynamic study. *Lab on A Chip*, **2010**, 10, 2710-9	7.2	21
110	Effects of ultraviolet light irradiation in biotreatment of organophosphates. *Applied Biochemistry and Biotechnology*, **1996**, 56, 37-47	3.2	21
109	Experimental determination of flux control distribution in biochemical systems: in vitro model to analyze transient metabolite concentrations. *Biotechnology and Bioengineering*, **1993**, 41, 1121-8	4.9	21
108	Application of characteristic reaction paths: Rate-limiting capability of phosphofructokinase in yeast fermentation. *Biotechnology and Bioengineering*, **1988**, 31, 855-68	4.9	20
107	Stability of Ensemble Models Predicts Productivity of Enzymatic Systems. *PLoS Computational Biology*, **2016**, 12, e1004800	5	20
106	Metabolic engineering of 2-pentanone synthesis in Escherichia coli. *AICHE Journal*, **2013**, 59, 3167-3175	3.6	19
105	Alteration of the biochemical valves in the central metabolism of Escherichia coli. *Annals of the New York Academy of Sciences*, **1994**, 745, 21-34	6.5	19
104	Vocabulon: a dictionary model approach for reconstruction and localization of transcription factor binding sites. *Bioinformatics*, **2005**, 21, 922-31	7.2	19
103	Engineering a Thermostable Keto Acid Decarboxylase Using Directed Evolution and Computationally Directed Protein Design. *ACS Synthetic Biology*, **2017**, 6, 610-618	5.7	18
102	Rearrangement of Coenzyme A-Acylated Carbon Chain Enables Synthesis of Isobutanol via a Novel Pathway in Ralstonia eutropha. *ACS Synthetic Biology*, **2018**, 7, 794-800	5.7	18

101	A hidden square-root boundary between growth rate and biomass yield. *Biotechnology and Bioengineering*, **2009**, 102, 73-80	4.9	18
100	Extending the quasi-steady state concept to analysis of metabolic networks. *Journal of Theoretical Biology*, **1987**, 126, 253-73	2.3	18
99	Phenotype sequencing: identifying the genes that cause a phenotype directly from pooled sequencing of independent mutants. *PLoS ONE*, **2011**, 6, e16517	3.7	18
98	Ensemble modeling of hepatic fatty acid metabolism with a synthetic glyoxylate shunt. *Biophysical Journal*, **2010**, 98, 1385-95	2.9	17
97	Reconstruction of the archaeal isoprenoid ether lipid biosynthesis pathway in Escherichia coli through digeranylgeranylglyceryl phosphate. *Metabolic Engineering*, **2009**, 11, 184-91	9.7	17
96	Directed evolution of ribosomal protein S1 for enhanced translational efficiency of high GC Rhodopseudomonas palustris DNA in Escherichia coli. *Journal of Biological Chemistry*, **2007**, 282, 18929-36	5.4	17
95	Directed strain evolution restructures metabolism for 1-butanol production in minimal media. *Metabolic Engineering*, **2018**, 49, 153-163	9.7	16
94	Ensemble modeling and related mathematical modeling of metabolic networks. *Journal of the Taiwan Institute of Chemical Engineers*, **2009**, 40, 595-601	5.3	16
93	A software package for cDNA microarray data normalization and assessing confidence intervals. *OMICS A Journal of Integrative Biology*, **2003**, 7, 227-34	3.8	16
92	Orthogonal partial least squares/projections to latent structures regression-based metabolomics approach for identification of gene targets for improvement of 1-butanol production in Escherichia coli. *Journal of Bioscience and Bioengineering*, **2017**, 124, 498-505	3.3	15
91	A Gibbs sampler for the identification of gene expression and network connectivity consistency. *Bioinformatics*, **2006**, 22, 3040-6	7.2	15
90	Metabolic systems modeling for cell factories improvement. *Current Opinion in Biotechnology*, **2017**, 46, 114-119	11.4	14
89	Transcriptomic and network component analysis of glycerol kinase in skeletal muscle using a mouse model of glycerol kinase deficiency. *Molecular Genetics and Metabolism*, **2009**, 96, 106-12	3.7	14
88	Heterologous protein expression affects the death kinetics of baculovirus-infected insect cell cultures: a quantitative study by use of n-target theory. *Biotechnology Progress*, **1994**, 10, 55-9	2.8	14
87	Metabolic repair through emergence of new pathways in Escherichia coli. *Nature Chemical Biology*, **2018**, 14, 1005-1009	11.7	14
86	Determination of functional interactions among signalling pathways in Escherichia coli K-12. *Metabolic Engineering*, **2005**, 7, 280-90	9.7	13
85	Toward predicting metabolic fluxes in metabolically engineered strains. *Metabolic Engineering*, **1999**, 1, 214-23	9.7	13
84	Industrial Microorganisms: Corynebacterium glutamicum **2016**, 183-220		12

83	Moonlighting function of glycerol kinase causes systems-level changes in rat hepatoma cells. *Metabolic Engineering*, **2010**, 12, 332-40	9.7	11
82	An information theoretic exploratory method for learning patterns of conditional gene coexpression from microarray data. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, **2008**, 5, 15-24	3	11
81	Nitric oxide metabolism in adults with cyanotic congenital heart disease. *American Journal of Cardiology*, **2007**, 99, 691-5	3	11
80	Stochastic modeling of the phase-variable pap operon regulation in uropathogenic Escherichia coli. *Biotechnology and Bioengineering*, **2004**, 88, 189-203	4.9	11
79	A mutant phosphoenolpyruvate carboxykinase in Escherichia coli conferring oxaloacetate decarboxylase activity. *Journal of Bacteriology*, **1995**, 177, 1620-3	3.5	11
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