Metabolic Fluxes and Metabolic Engineering

Metabolic Engineering

1, 1-11

Citation Report

#	Article	IF	Citations
1	The evolution of technology: scientific method, engineering design, and translational research. , 0, , 149-185.		0
2	Genetic and metabolic engineering. Electronic Journal of Biotechnology, 1998, 1, 134-141.	1.2	22
3	In Vivo13C NMR Study of the Bidirectional Reactions of the Wood–Werkman Cycle and around the Pyruvate Node in Propionibacterium freudenreichii subsp. shermanii and Propionibacterium acidipropionici. Metabolic Engineering, 1999, 1, 309-319.	3.6	9
4	Glutamate Excretion as a Major Kinetic Bottleneck for the Thermally Triggered Production of Glutamic Acid by Corynebacterium glutamicum. Metabolic Engineering, 1999, 1, 255-261.	3.6	24
5	A mathematical description of regulation of the G1-S transition of the mammalian cell cycle. Biotechnology and Bioengineering, 1999, 65, 631-637.	1.7	67
6	Metabolic Network Analysis. Advances in Biochemical Engineering/Biotechnology, 1999, , 209-231.	0.6	24
7	Metabolic Engineering. Annual Review of Biomedical Engineering, 1999, 1, 535-557.	5.7	69
8	In Vitro Characterization of Porcine Hepatocyte Function. Cell Transplantation, 2000, 9, 1-10.	1.2	36
9	Metabolic network analysis ofpenicillium chrysogenumusing13c-labeled glucose. , 2000, 68, 652-659.		105
10	Combining pathway analysis with flux balance analysis for the comprehensive study of metabolic systems. Biotechnology and Bioengineering, 2000, 71, 286-306.	1.7	180
11	Biocatalysis for Pharmaceuticals–Status and Prospects for a Key Technology. Metabolic Engineering, 2000, 2, 42-48.	3.6	55
12	Gene Therapy and Metabolic Engineering. Metabolic Engineering, 2000, 2, 126-139.	3.6	10
13	Low-Copy Plasmids can Perform as Well as or Better Than High-Copy Plasmids for Metabolic Engineering of Bacteria. Metabolic Engineering, 2000, 2, 328-338.	3.6	237
14	Metabolic characterization of Lactococcus lactis deficient in lactate dehydrogenase using in vivo13C-NMR. FEBS Journal, 2000, 267, 3859-3868.	0.2	100
15	Mathematical modelling of metabolism. Current Opinion in Biotechnology, 2000, 11, 180-186.	3.3	165
16	Metabolic Modeling Identifies Key Constraints on an Engineered Glycine Betaine Synthesis Pathway in Tobacco. Plant Physiology, 2000, 124, 153-162.	2.3	101
17	Metabolic Engineering for Stress Tolerance: Installing Osmoprotectant Synthesis Pathways. Annals of Botany, 2000, 86, 709-716.	1.4	223
18	Plant one-carbon metabolism and its engineering. Trends in Plant Science, 2000, 5, 206-213.	4.3	124

#	Article	IF	Citations
19	Metabolic Flux Analysis. , 2000, , 106-124.		12
20	Determination of full 13C isotopomer distributions for metabolic flux analysis using heteronuclear spin echo difference NMR spectroscopy. Journal of Biotechnology, 2000, 77, 25-35.	1.9	62
21	Progress and Prospects in Engineering Crops for Osmoprotectant Synthesis. , 2000, , 139-154.		2
22	Metabolic engineering as an integrating platform for strain development. Current Opinion in Microbiology, 2001, 4, 336-340.	2.3	43
23	Systems Biology: an emerging theme in biological research. Computer Aided Chemical Engineering, 2001, , 55-68.	0.3	1
24	Metabolic Flux Analysis of Mammalian Cells in High Cell Density Perfusion Cultures Targetting Real-Time Application. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2001, 34, 137-142.	0.4	0
25	Functional genomics and systems engineering. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2001, 34, 13-22.	0.4	0
26	Metabolic engineering. Applied Microbiology and Biotechnology, 2001, 55, 263-283.	1.7	285
27	Application of radiolabeled tracers to biocatalytic flux analysis. FEBS Journal, 2001, 268, 4950-4960.	0.2	16
28	Biochemical Engineering of Natural Product Biosynthesis Pathways. Metabolic Engineering, 2001, 3, 4-14.	3.6	51
29	Bioreactors: a chemical engineering perspective. Chemical Engineering Science, 2001, 56, 5485-5497.	1.9	39
30	ONE-CARBONMETABOLISM INHIGHERPLANTS. Annual Review of Plant Biology, 2001, 52, 119-137.	14.2	388
31	Osmoregulation in Plants: Implications for Agriculture1. American Zoologist, 2001, 41, 758-769.	0.7	63
32	Enhanced synthesis of choline and glycine betaine in transgenic tobacco plants that overexpress phosphoethanolamine N-methyltransferase. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 10001-10005.	3.3	173
33	Osmoregulation in Plants: Implications for Agriculture. American Zoologist, 2001, 41, 758-769.	0.7	72
34	Optimizing bioconversion pathways through systems analysis and metabolic engineering. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 1801-1806.	3.3	31
35	An Introduction to 13C Metabolic Flux Analysis. , 2002, 24, 215-238.		19
36	Mapping physiological states from microarray expression measurements. Bioinformatics, 2002, 18, 1054-1063.	1.8	52

#	ARTICLE	IF	CITATIONS
37	Metabolic Flux Responses to Pyruvate Kinase Knockout in Escherichia coli. Journal of Bacteriology, 2002, 184, 152-164.	1.0	254
38	Modeling and simulation: tools for metabolic engineering. Journal of Biotechnology, 2002, 94, 37-63.	1.9	183
39	Dynamic Flux Balance Analysis of Diauxic Growth in Escherichia coli. Biophysical Journal, 2002, 83, 1331-1340.	0.2	806
40	2001 W.O. Atwater Memorial Lecture and the 2001 ASNS President's Lecture: Human Nutrient Requirements: The Challenge of the Post-Genome Era. Journal of Nutrition, 2002, 132, 621-629.	1.3	31
41	Carbohydrate cycling in micro-organisms: what can C-NMR tell us?. FEMS Microbiology Reviews, 2002, 26, 375-402.	3.9	3
42	Quantitative analysis of intracellular metabolic fluxes using GC-MS and two-dimensional NMR spectroscopy. Journal of Bioscience and Bioengineering, 2002, 93, 78-87.	1.1	56
43	Low-protein medium affects the 293SF central metabolism during growth and infection with adenovirus. Biotechnology and Bioengineering, 2002, 77, 91-104.	1.7	48
44	Metabolic Engineering of Amino Acids and Storage Proteins in Plants. Metabolic Engineering, 2002, 4, 3-11.	3.6	163
45	Mathematical Modeling of Plant Metabolic Pathways. Metabolic Engineering, 2002, 4, 80-89.	3.6	123
46	Quantification of Metabolic Flux in Plant Secondary Metabolism by a Biogenetic Organizational Approach. Metabolic Engineering, 2002, 4, 257-262.	3.6	26
47	Mathematical Modeling of in vitro Enzymatic Production of 2-Keto-L-gulonic Acid Using NAD(H) or NADP(H) as Cofactors. Metabolic Engineering, 2002, 4, 273-284.	3.6	19
48	Integration of the information from gene expression and metabolic fluxes for the analysis of the regulatory mechanisms in Synechocystis. Applied Microbiology and Biotechnology, 2002, 58, 813-822.	1.7	98
49	Metabolic engineering of Saccharomyces cerevisiae for production of novel lipid compounds. Applied Microbiology and Biotechnology, 2002, 59, 224-230.	1.7	59
50	Carbohydrate cycling in micro-organisms: what can13C-NMR tell us?. FEMS Microbiology Reviews, 2002, 26, 375-402.	3.9	56
51	The Corynebacterium glutamicum genome: features and impacts on biotechnological processes. Applied Microbiology and Biotechnology, 2003, 62, 99-109.	1.7	493
52	A perspective of metabolic engineering strategies: moving up the systems hierarchy. Biotechnology and Bioengineering, 2003, 84, 815-821.	1.7	25
53	The quest for the mechanisms of life. Biotechnology and Bioengineering, 2003, 84, 739-742.	1.7	18
54	Engineering metabolism and product formation in Corynebacterium glutamicum by coordinated gene overexpression. Metabolic Engineering, 2003, 5, 32-41.	3.6	94

#	ARTICLE	IF	CITATIONS
55	Systematic quantification of complex metabolic flux networks using stable isotopes and mass spectrometry. FEBS Journal, 2003, 270, 3525-3542.	0.2	88
56	An improved method for statistical analysis of metabolic flux analysis using isotopomer mapping matrices with analytical expressions. Journal of Biotechnology, 2003, 105, 117-133.	1.9	54
57	Metabolic networks of microbial systems. Microbial Cell Factories, 2003, 2, 3.	1.9	6
58	Functional genomics and proteomics as a foundation for systems biology. Briefings in Functional Genomics & Proteomics, 2003, 2, 175-184.	3.8	73
59	Responses of theCentral Metabolism in Escherichia coli to PhosphoglucoseIsomerase and Glucose-6-Phosphate DehydrogenaseKnockouts. Journal of Bacteriology, 2003, 185, 7053-7067.	1.0	173
60	An overview of data models for the analysis of biochemical pathways. Briefings in Bioinformatics, 2003, 4, 246-259.	3.2	87
61	Metabolic Engineering: Advances in Modeling and Intervention in Health and Disease. Annual Review of Biomedical Engineering, 2003, 5, 349-381.	5.7	89
62	Ion-Trap Mass Spectrometry Used in Combination with Gas Chromatography for High-Resolution Metabolic Flux Determination. BioTechniques, 2003, 34, 832-849.	0.8	23
63	Quantification of Compartmented Metabolic Fluxes in Developing Soybean Embryos by Employing Biosynthetically Directed Fractional 13C Labeling, Two-Dimensional [13C, 1H] Nuclear Magnetic Resonance, and Comprehensive Isotopomer Balancing. Plant Physiology, 2004, 136, 3043-3057.	2.3	152
64	Hexokinase II Overexpression Improves Exercise-Stimulated But Not Insulin-Stimulated Muscle Glucose Uptake in High-Fat-Fed C57BL/6J Mice. Diabetes, 2004, 53, 306-314.	0.3	70
65	Sweet Changes: Glucose Homeostasis Can Be Altered by Manipulating Genes Controlling Hepatic Glucose Metabolism. Molecular Endocrinology, 2004, 18, 1051-1063.	3.7	40
66	Exploiting biological complexity for strain improvement through systems biology. Nature Biotechnology, 2004, 22, 1261-1267.	9.4	166
67	Understanding flux in plant metabolic networks. Current Opinion in Plant Biology, 2004, 7, 309-317.	3.5	162
68	Improvements in metabolic flux analysis using carbon bond labeling experiments: bondomer balancing and Boolean function mapping. Metabolic Engineering, 2004, 6, 116-132.	3.6	43
69	Production of 8â€²-Halogenated and 8â€²-Unsubstituted Novobiocin Derivatives in Genetically Engineered Streptomyces coelicolor Strains. Chemistry and Biology, 2004, 11, 1561-1572.	6.2	56
70	High-throughput phenomics: experimental methods for mapping fluxomes. Current Opinion in Biotechnology, 2004, 15, 58-63.	3.3	236
71	Use of genome-scale microbial models for metabolic engineering. Current Opinion in Biotechnology, 2004, 15, 64-69.	3.3	150
72	Towards Complete Automation of Mammalian Cell Culture Perfusion Processes. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 387-391.	0.4	0

#	Article	IF	Citations
73	Fermentative production of lysine by Corynebacterium glutamicum: transmembrane transport and metabolic flux analysis. Process Biochemistry, 2005, 40, 499-508.	1.8	16
74	Systems Biology—an interdisciplinary approach. Biosensors and Bioelectronics, 2005, 20, 2404-2407.	5.3	45
75	Hierarchical and metabolic regulation of glucose influx in starved. FEMS Yeast Research, 2005, 5, 611-619.	1.1	69
76	Theoretical aspects of 13C metabolic flux analysis with sole quantification of carbon dioxide labeling. Computational Biology and Chemistry, 2005, 29, 121-133.	1.1	53
77	Selecting maximally informative genes. Computers and Chemical Engineering, 2005, 29, 535-546.	2.0	13
78	Heurstic search for metabolic engineering: de novo synthesis of vanillin. Computers and Chemical Engineering, 2005, 29, 499-507.	2.0	7
79	Metabolic flux analysis: A key methodology for systems biology of metabolism. , 0, , 191-214.		3
80	Strain improvement by metabolic engineering: lysine production as a case study for systems biology. Current Opinion in Biotechnology, 2005, 16, 361-366.	3.3	92
81	Impact of Global Transcriptional Regulation by ArcA, ArcB, Cra, Crp, Cya, Fnr, and Mlc on Glucose Catabolism in Escherichia coli. Journal of Bacteriology, 2005, 187, 3171-3179.	1.0	256
83	Metabolic Genomics. Advances in Microbial Physiology, 2005, 50, 1-41e.	1.0	5
84	Hierarchical Petri Nets for Modeling Metabolic Phenotype in Prokaryotes. Industrial & Engineering Chemistry Research, 2005, 44, 2218-2240.	1.8	1
85	Metabolic Engineering. , 2005, 100, 1-17.		19
86	Mechanistic model of cardiac energy metabolism predicts localization of glycolysis to cytosolic subdomain during ischemia. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H2400-H2411.	1.5	62
87	Modelling of Fungal Metabolism. , 2005, , 195-214.		0
88	Continuous culture – making a comeback?. Microbiology (United Kingdom), 2005, 151, 3153-3159.	0.7	221
91	Lactate production yield from engineered yeasts is dependent from the host background, the lactate dehydrogenase source and the lactate export. Microbial Cell Factories, 2006, 5, 4.	1.9	84
93	Genetic improvement of processes yielding microbial products. FEMS Microbiology Reviews, 2006, 30, 187-214.	3.9	183
94	Kinetic flux profiling of nitrogen assimilation in Escherichia coli. , 2006, 2, 529-530.		117

#	ARTICLE	IF	CITATIONS
95	Production of isoprenoid pharmaceuticals by engineered microbes. Nature Chemical Biology, 2006, 2, 674-681.	3.9	361
96	Identification of distributed metabolic objectives in the hypermetabolic liver by flux and energy balance analysis. Metabolic Engineering, 2006, 8, 30-45.	3.6	41
97	Signal transduction and metabolic flux of β-thujaplicin and monoterpene biosynthesis in elicited Cupressus lusitanica cell cultures. Metabolic Engineering, 2006, 8, 14-29.	3.6	23
98	Determination of confidence intervals of metabolic fluxes estimated from stable isotope measurements. Metabolic Engineering, 2006, 8, 324-337.	3.6	423
99	Respirometric 13C flux analysis, Part I: Design, construction and validation of a novel multiple reactor system using on-line membrane inlet mass spectrometry. Metabolic Engineering, 2006, 8, 417-431.	3.6	37
100	Metabolomics and Systems Biology in Saccharomyces cerevisiae. , 2006, , 3-18.		9
101	Metabolic networks in motion: 13 C‚Äêbased flux analysis. Molecular Systems Biology, 2006, 2, 62.	3.2	582
102	Engineering the acetyl-CoA transportation system of candida tropicalis enhances the production of dicarboxylic acid. Biotechnology Journal, 2006, 1, 68-74.	1.8	42
103	Metabolic flux analysis of the sterol pathway in the yeast Saccharomyces cerevisiae. Bioprocess and Biosystems Engineering, 2006, 29, 241-252.	1.7	18
104	Stable isotopes, mass spectrometry, and molecular fluxes: Applications to toxicology. Journal of Pharmacological and Toxicological Methods, 2006, 53, 75-85.	0.3	16
105	Analysis of optimal phenotypic space using elementary modes as applied to Corynebacterium glutamicum. BMC Bioinformatics, 2006, 7, 445.	1.2	35
106	Metabolic analysis of adaptive evolution for in silico-designed lactate-producing strains. Biotechnology and Bioengineering, 2006, 95, 992-1002.	1.7	65
107	Networks Everywhere? Some General Implications of an Emergent Metaphor. Current Bioinformatics, 2006, 1, 219-234.	0.7	8
108	Minimization of Glycerol Production during the High-Performance Fed-Batch Ethanolic Fermentation Process in Saccharomyces cerevisiae , Using a Metabolic Model as a Prediction Tool. Applied and Environmental Microbiology, 2006, 72, 2134-2140.	1.4	47
109	Metabolic Flux Analysis of Bioconversion of Glycerol into 1,3-Propanediol by Klebsiella Pneumoniae. , 2007, , .		1
111	Bayesian-based selection of metabolic objective functions. Bioinformatics, 2007, 23, 351-357.	1.8	86
112	21 Metabolic Control in the Eukaryotic Cell, a Systems Biology Perspective. Methods in Microbiology, 2007, , 527-549.	0.4	3
113	Engineering primary metabolic pathways of industrial micro-organisms. Journal of Biotechnology, 2007, 129, 6-29.	1.9	95

#	Article	IF	Citations
114	Systems biology for industrial strains and fermentation processesâ€"Example: Amino acids. Journal of Biotechnology, 2007, 129, 181-190.	1.9	94
115	Metabolic flux engineering of l-lysine production in Corynebacterium glutamicumâ€"over expression and modification of G6P dehydrogenase. Journal of Biotechnology, 2007, 132, 99-109.	1.9	162
116	Effect of different carbon sources on central metabolic fluxes and the recombinant production of a hydrolase from Thermobifida fusca in Bacillus megaterium. Journal of Biotechnology, 2007, 132, 385-394.	1.9	40
117	Hybrid semi-parametric mathematical systems: Bridging the gap between systems biology and process engineering. Journal of Biotechnology, 2007, 132, 418-425.	1.9	30
119	Accurate Assessment of Amino Acid Mass Isotopomer Distributions for Metabolic Flux Analysis. Analytical Chemistry, 2007, 79, 7554-7559.	3.2	247
120	Biocatalysis for Chiral Synthesis. , 2007, , 351-371.		1
121	Quantifying the metabolic capabilities of engineered Zymomonas mobilis using linear programming analysis. Microbial Cell Factories, 2007, 6, 8.	1.9	27
122	Cellular metabolomics ofEscherichia coli. Expert Review of Proteomics, 2007, 4, 187-198.	1.3	66
123	Toward metabolome-based 13C flux analysis: a universal tool for measuring in vivo metabolic activity. Topics in Current Genetics, 2007, , 129-157.	0.7	4
124	The YfiD protein contributes to the pyruvate formate-lyase flux in anEscherichia coli arcA mutant strain. Biotechnology and Bioengineering, 2007, 97, 138-143.	1.7	20
125	Elementary metabolite units (EMU): A novel framework for modeling isotopic distributions. Metabolic Engineering, 2007, 9, 68-86.	3.6	514
126	Metabolic flux analysis in a nonstationary system: Fed-batch fermentation of a high yielding strain of E. coli producing 1,3-propanediol. Metabolic Engineering, 2007, 9, 277-292.	3.6	217
127	Multi-dimensional gene target search for improving lycopene biosynthesis in Escherichia coli. Metabolic Engineering, 2007, 9, 337-347.	3.6	134
128	Hybrid elementary flux analysis/nonparametric modeling: application for bioprocess control. BMC Bioinformatics, 2007, 8, 30.	1.2	77
129	Expanding the metabolic engineering toolbox: more options to engineer cells. Trends in Biotechnology, 2007, 25, 132-137.	4.9	200
130	Science â€" or not? The status and dynamics of biotechnology. Biotechnology Journal, 2007, 2, 1154-1168.	1.8	9
131	Fueling Industrial Biotechnology Growth with Bioethanol. , 2007, 108, 1-40.		51
132	Bacillus megateriumâ€"from simple soil bacterium to industrial protein production host. Applied Microbiology and Biotechnology, 2007, 76, 957-967.	1.7	215

#	Article	IF	Citations
133	Manipulating indole alkaloid production by Catharanthus roseus cell cultures in bioreactors: from biochemical processing to metabolic engineering. Phytochemistry Reviews, 2007, 6, 435-457.	3.1	111
134	A semi-quantitative high-throughput screening method for microbial l-tyrosine production in microtiter plates. Journal of Industrial Microbiology and Biotechnology, 2007, 34, 807-811.	1.4	10
135	Anaerobic biotechnological approaches for production of liquid energy carriers from biomass. Biotechnology Letters, 2007, 29, 1005-1012.	1.1	40
136	Flux quantification in central carbon metabolism of Catharanthus roseus hairy roots by 13C labeling and comprehensive bondomer balancing. Phytochemistry, 2007, 68, 2243-2257.	1.4	61
137	Current status, strategies, and potential for the metabolic engineering of heterologous polyketides in Escherichia coli. Biotechnology Letters, 2008, 30, 1323-1330.	1.1	31
138	Metabolic flux and robustness analysis of glycerol metabolism in Klebsiella pneumoniae. Bioprocess and Biosystems Engineering, 2008, 31, 127-135.	1.7	49
139	Identification of optimal measurement sets for complete flux elucidation in metabolic flux analysis experiments. Biotechnology and Bioengineering, 2008, 100, 1039-1049.	1.7	35
140	Combinatorial engineering of microbes for optimizing cellular phenotype. Current Opinion in Chemical Biology, 2008, 12, 168-176.	2.8	162
141	Metabolic engineering of Escherichia coli for biosynthesis of hyaluronic acid. Metabolic Engineering, 2008, 10, 24-32.	3.6	150
142	Isotopic non-stationary 13C gluconate tracer method for accurate determination of the pentose phosphate pathway split-ratio in Penicillium chrysogenum. Metabolic Engineering, 2008, 10, 178-186.	3.6	31
143	Dynamic metabolic engineering for increasing bioprocess productivity. Metabolic Engineering, 2008, 10, 255-266.	3.6	126
144	Strain improvement for production of pharmaceuticals and other microbial metabolites by fermentation. , 2008, 65, 251-289.		42
145	Metabolic flux analysis and metabolic engineering of microorganisms. Molecular BioSystems, 2008, 4, 113-120.	2.9	141
146	<i>Discovering Regulators of the</i>Drosophila<i>Cardiac Hypoxia Response Using Automated Phenotyping Technology</i>. Annals of the New York Academy of Sciences, 2008, 1123, 169-177.	1.8	10
147	2D [1H,13C] NMR study of carbon fluxes during glucose utilization by Escherichia coli MG1655. Applied Biochemistry and Microbiology, 2008, 44, 151-157.	0.3	1
148	Metabolic flux maps comparing the effect of temperature on protein and oil biosynthesis in developing soybean cotyledons. Plant, Cell and Environment, 2008, 31, 506-517.	2.8	85
149	Metabolic regulation and overproduction of primary metabolites. Microbial Biotechnology, 2008, 1, 283-319.	2.0	124
150	Integrating metabolomics and phenomics with systems models of cardiac hypoxia. Progress in Biophysics and Molecular Biology, 2008, 96, 209-225.	1.4	17

#	ARTICLE	IF	CITATIONS
151	Metabolically Engineered Yeasts: â€˜Potentialâ€™ Industrial Applications. Journal of Molecular Microbiology and Biotechnology, 2008, 15, 31-40.	1.0	28
152	Synthetic Biology for Synthetic Chemistry. ACS Chemical Biology, 2008, 3, 64-76.	1.6	383
153	Yeast cell factories for fine chemical and API production. Microbial Cell Factories, 2008, 7, 25.	1.9	98
154	Genetic Engineering of Amino Acid Metabolism in Plants. Advances in Plant Biochemistry and Molecular Biology, 2008, 1, 49-80.	0.5	20
155	Specific Ethanol Production Rate in Ethanologenic *Escherichia coli* Strain KO11 Is Limited by Pyruvate Decarboxylase. Journal of Molecular Microbiology and Biotechnology, 2008, 15, 55-64.	1.0	25
156	Global metabolic effects of glycerol kinase overexpression in rat hepatoma cells. Molecular Genetics and Metabolism, 2008, 93, 145-159.	0.5	30
157	On the Potential for Integrating Gene Expression and Metabolic Flux Data. Current Bioinformatics, 2008, 3, 142-148.	0.7	11
158	Emerging Roles for Metabolic Engineering - Understanding Primitive and Complex Metabolic Models and Their Relevance to Healthy and Diseased Kidney Podocytes. Current Chemical Biology, 2008, 2, 68-82.	0.2	0
159	Emerging Roles for Metabolic Engineering - Understanding Primitive and Complex Metabolic Models and Their Relevance to Healthy and Diseased Kidney Podocytes. Current Chemical Biology, 2008, 2, 68-82.	0.2	1
160	Metabolic Flux Analysis of *Escherichia coli creB* and *arcA* Mutants Reveals Shared Control of Carbon Catabolism under Microaerobic Growth Conditions. Journal of Bacteriology, 2009, 191, 5538-5548.	1.0	46
161	Metabolic Networks. World Scientific Lecture Notes in Complex Systems, 2009, , 159-195.	0.1	0
162	Dynamic flux responses in riboflavin overproducing *Bacillus subtilis* to increasing glucose limitation in fedâ€batch culture. Biotechnology and Bioengineering, 2010, 105, 795-804.	1.7	29
163	Metabolic pathway analysis of glycerol metabolism in *Klebsiella pneumoniae* incorporating oxygen regulatory system. Biotechnology Progress, 2009, 25, 103-115.	1.3	43
164	Toward systematic metabolic engineering based on the analysis of metabolic regulation by the integration of different levels of information. Biochemical Engineering Journal, 2009, 46, 235-251.	1.8	44
165	Synthetic protein scaffolds provide modular control over metabolic flux. Nature Biotechnology, 2009, 27, 753-759.	9.4	1,071
166	13C-based metabolic flux analysis. Nature Protocols, 2009, 4, 878-892.	5.5	520
167	Improving cellular malonyl-CoA level in Escherichia coli via metabolic engineering. Metabolic Engineering, 2009, 11, 192-198.	3.6	223
168	Numerical bias estimation for mass spectrometric mass isotopomer analysis. Analytical Biochemistry, 2009, 388, 192-203.	1.1	20

#	ARTICLE	IF	CITATIONS
169	Development and experimental verification of a genome-scale metabolic model for Corynebacterium glutamicum. Microbial Cell Factories, 2009, 8, 43.	1.9	104
173	GC–MS for Metabolic Flux Analysis. , 2009, , .		0
174	Transcriptional and metabolic flux profiling of triadimefon effects on cultured hepatocytes. Toxicology and Applied Pharmacology, 2010, 248, 165-177.	1.3	17
175	Utilizing elementary mode analysis, pathway thermodynamics, and a genetic algorithm for metabolic flux determination and optimal metabolic network design. BMC Systems Biology, 2010, 4, 49.	3.0	33
176	Validation study of 24 deepwell microtiterplates to screen libraries of strains in metabolic engineering. Journal of Bioscience and Bioengineering, 2010, 110, 646-652.	1.1	10
179	Prozess Analytische Technologie in der Biotechnologie. Chemie-Ingenieur-Technik, 2010, 82, 405-414.	0.4	11
180	Industrial systems biology. Biotechnology and Bioengineering, 2010, 105, 439-460.	1.7	130
181	Genetic engineering approach for the production of rhamnosyl and allosyl flavonoids from <i>Escherichia coli</i>. Biotechnology and Bioengineering, 2010, 107, 154-162.	1.7	40
182	Current status of 13C-metabolic flux analysis and future perspectives. Process Biochemistry, 2010, 45, 1873-1881.	1.8	23
183	Improving baculovirus production at high cell density through manipulation of energy metabolism. Metabolic Engineering, 2010, 12, 39-52.	3.6	77
184	Metabolic flux analysis and pharmaceutical production. Metabolic Engineering, 2010, 12, 81-95.	3.6	101
185	Use of modular, synthetic scaffolds for improved production of glucaric acid in engineered E. coli. Metabolic Engineering, 2010, 12, 298-305.	3.6	258
186	Catching prompt metabolite dynamics in Escherichia coli with the BioScope at oxygen rich conditions. Metabolic Engineering, 2010, 12, 477-487.	3.6	30
187	Optimization of biochemical systems through mathematical programming: Methods and applications. Computers and Operations Research, 2010, 37, 1427-1438.	2.4	41
188	Metabolic engineering in silico. Applied Biochemistry and Microbiology, 2010, 46, 671-687.	0.3	4
189	Systems Biology: The Next Frontier for Bioinformatics. Advances in Bioinformatics, 2010, 2010, 1-10.	5.7	51
190	Recombinant organisms for production of industrial products. Bioengineered Bugs, 2010, 1, 116-131.	2.0	150
191	De Novo Metabolic Engineering and the Promise of Synthetic DNA. , 2010, 120, 101-131.		8

#	Article	IF	Citations
192	Reevaluating synthesis by biology. Current Opinion in Microbiology, 2010, 13, 371-376.	2.3	19
194	Coevolutionary Analysis Enabled Rational Deregulation of Allosteric Enzyme Inhibition in Corynebacterium glutamicum for Lysine Production. Applied and Environmental Microbiology, 2011, 77, 4352-4360.	1.4	61
195	Systems Biology of Recombinant Protein Production Using Bacillus megaterium. Methods in Enzymology, 2011, 500, 165-195.	0.4	60
197	Methods and options for the heterologous production of complex natural products. Natural Product Reports, 2011, 28, 125-151.	5.2	138
199	Enhancing the Microbial Conversion of Glycerol to 1,3-Propanediol Using Metabolic Engineering. Organic Process Research and Development, 2011, 15, 189-202.	1.3	66
200	Computational Design of Auxotrophy-Dependent Microbial Biosensors for Combinatorial Metabolic Engineering Experiments. PLoS ONE, 2011, 6, e16274.	1.1	20
201	Determination of Stoichiometric Matrix for Ethanol Production from Xylose by Reduction of Elementary Modes with Ant Colony Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 5040-5045.	0.4	1
202	Investigation of the anaerobic metabolism of Rhodobacter capsulatus by means of a flux model. Biophysics (Russian Federation), 2011, 56, 74-85.	0.2	3
203	Modeling soil metabolic processes using isotopologue pairs of position-specific 13C-labeled glucose and pyruvate. Soil Biology and Biochemistry, 2011, 43, 1848-1857.	4.2	77
204	Engineering Escherichia coli for efficient production of 5-aminolevulinic acid from glucose. Metabolic Engineering, 2011, 13, 492-498.	3.6	121
205	Substrate channeling and enzyme complexes for biotechnological applications. Biotechnology Advances, 2011, 29, 715-725.	6.0	264
206	Biosynthesis of isoprene in Escherichia coli via methylerythritol phosphate (MEP) pathway. Applied Microbiology and Biotechnology, 2011, 90, 1915-1922.	1.7	136
207	Metabolic Engineering of Bacteria. Indian Journal of Microbiology, 2011, 51, 403-409.	1.5	55
208	Re-examination of metabolic fluxes in Escherichia coli during anaerobic fermentation of glucose using 13C labeling experiments and 2-dimensional nuclear magnetic resonance (NMR) spectroscopy. Biotechnology and Bioprocess Engineering, 2011, 16, 419-437.	1.4	18
209	Framework for network modularization and Bayesian network analysis to investigate the perturbed metabolic network. BMC Systems Biology, 2011, 5, S14.	3.0	14
210	Improved oxytetracycline production in Streptomyces rimosus M4018 by metabolic engineering of the G6PDH gene in the pentose phosphate pathway. Enzyme and Microbial Technology, 2011, 49, 17-24.	1.6	38
211	Synergy between 13C-metabolic flux analysis and flux balance analysis for understanding metabolic adaption to anaerobiosis in E. coli. Metabolic Engineering, 2011, 13, 38-48.	3.6	143
212	Towards a quantitative prediction of the fluxome from the proteome. Metabolic Engineering, 2011, 13, 253-262.	3.6	16

#	Article	IF	Citations
213	Quantitative Analysis of Flux Regulation Through Hierarchical Regulation Analysis. Methods in Enzymology, 2011, 500, 571-595.	0.4	12
214	Metabolic Design and Control for Production in Prokaryotes. , 2011, , 243-255.		5
215	Diversion of Flux toward Sesquiterpene Production in *Saccharomyces cerevisiae* by Fusion of Host and Heterologous Enzymes. Applied and Environmental Microbiology, 2011, 77, 1033-1040.	1.4	194
216	Differential Producibility Analysis (DPA) of Transcriptomic Data with Metabolic Networks: Deconstructing the Metabolic Response of M. tuberculosis. PLoS Computational Biology, 2011, 7, e1002060.	1.5	20
217	Cancer cell growth and survival as a system-level property sustained by enhanced glycolysis and mitochondrial metabolic remodeling. Frontiers in Physiology, 2012, 3, 362.	1.3	24
218	13C Metabolic Flux Analysis: From the Principle to Recent Applications. Current Bioinformatics, 2012, 7, 77-86.	0.7	9
219	Manipulation of the Anoxic Metabolism in Escherichia coli by ArcB Deletion Variants in the ArcBA Two-Component System. Applied and Environmental Microbiology, 2012, 78, 8784-8794.	1.4	15
220	Fine Tuning of the Lactate and Diacetyl Production through Promoter Engineering in Lactococcus lactis. PLoS ONE, 2012, 7, e36296.	1.1	54
221	Systematic Applications of Metabolomics in Metabolic Engineering. Metabolites, 2012, 2, 1090-1122.	1.3	20
222	Synthetic Biology and Metabolic Engineering. ACS Synthetic Biology, 2012, 1, 514-525.	1.9	212
223	Expanding the concepts and tools of metabolic engineering to elucidate cancer metabolism. Biotechnology Progress, 2012, 28, 1409-1418.	1.3	18
224	Parallel labeling experiments with [U-13C]glucose validate E. coli metabolic network model for 13C metabolic flux analysis. Metabolic Engineering, 2012, 14, 533-541.	3.6	86
225	An integrated computational and experimental study for overproducing fatty acids in Escherichia coli. Metabolic Engineering, 2012, 14, 687-704.	3.6	102
226	Engineering of an N-acetylneuraminic acid synthetic pathway in Escherichia coli. Metabolic Engineering, 2012, 14, 623-629.	3.6	41
227	Overexpressed acetohydroxyacid reductoisomerase (ILV5) gene in Saccharomyces cerevisiae reduces diacetyl contents in Korean Campbell Early and Muscat Bailey a grape wines. Journal of the Korean Society for Applied Biological Chemistry, 2012, 55, 799-801.	0.9	4
228	Metabolic cartography: experimental quantification of metabolic fluxes from isotopic labelling studies. Journal of Experimental Botany, 2012, 63, 2293-2308.	2.4	66
229	Metabolomics-on-a-chip and metabolic flux analysis for label-free modeling of the internal metabolism of HepG2/C3A cells. Molecular BioSystems, 2012, 8, 1908.	2.9	37
230	Measuring Complete Isotopomer Distribution of Aspartate Using Gas Chromatography/Tandem Mass Spectrometry. Analytical Chemistry, 2012, 84, 4628-4632.	3.2	78

#	ARTICLE	IF	CITATIONS
231	EMERGING ENGINEERING PRINCIPLES FOR YIELD IMPROVEMENT IN MICROBIAL CELL DESIGN. Computational and Structural Biotechnology Journal, 2012, 3, e201210016.	1.9	10
232	BIOPROCESS SYSTEMS ENGINEERING: TRANSFERRING TRADITIONAL PROCESS ENGINEERING PRINCIPLES TO INDUSTRIAL BIOTECHNOLOGY. Computational and Structural Biotechnology Journal, 2012, 3, e201210022.	1.9	50
233	ENGINEERING MICROBES FOR PLANT POLYKETIDE BIOSYNTHESIS. Computational and Structural Biotechnology Journal, 2012, 3, e201210020.	1.9	30
234	Metabolic engineering: enabling technology for biofuels production. Wiley Interdisciplinary Reviews: Energy and Environment, 2012, 1, 165-172.	1.9	3
235	An inverse metabolic engineering approach for the design of an improved host platform for over-expression of recombinant proteins in Escherichia coli. Microbial Cell Factories, 2012, 11, 93.	1.9	9
236	Rational design of 13C-labeling experiments for metabolic flux analysis in mammalian cells. BMC Systems Biology, 2012, 6, 43.	3.0	93
237	Recent advances in microbial production of Î´-aminolevulinic acid and vitamin B12. Biotechnology Advances, 2012, 30, 1533-1542.	6.0	117
238	Bioethanol: A Critical Appraisal. , 2012, , 793-824.		3
239	Essential Role of Genetics in the Advancement of Biotechnology. Methods in Molecular Biology, 2012, 898, 1-40.	0.4	1
240	Systems Metabolic Engineering: The Creation of Microbial Cell Factories by Rational Metabolic Design and Evolution. Advances in Biochemical Engineering/Biotechnology, 2012, 131, 1-23.	0.6	17
241	The Handbook of Metabolomics. Methods in Pharmacology and Toxicology, 2012, , .	0.1	22
242	Metabolic Flux Analysis. Methods in Pharmacology and Toxicology, 2012, , 231-277.	0.1	1
243	Making Green Polymers Even Greener:Towards Sustainable Production of Polyhydroxyalkanoates from Agroindustrial By-Products. , 0, , .		23
244	Inventions Shaping Technological Trajectories: Do Existing Patent Indicators Provide a Comprehensive Picture?. SSRN Electronic Journal, 2012, , .	0.4	1
245	13C-Metabolic Flux Analysis and Metabolic Regulation. , 2012, , .		1
246	The Application of Stable Isotope Assisted Metabolomics in Biomedicine. Current Biotechnology, 2012, 1, 88-97.	0.2	1
247	Succinate production in <i>Escherichia coli</i>. Biotechnology Journal, 2012, 7, 213-224.	1.8	159
248	Synthetic biology devices as tools for metabolic engineering. Biochemical Engineering Journal, 2012, 65, 82-89.	1.8	21

#	Article	IF	Citations
249	Parts plus pipes: Synthetic biology approaches to metabolic engineering. Metabolic Engineering, 2012, 14, 223-232.	3.6	119
250	Selection of tracers for 13C-Metabolic Flux Analysis using Elementary Metabolite Units (EMU) basis vector methodology. Metabolic Engineering, 2012, 14, 150-161.	3.6	78
251	Metabolic flux rearrangement in the amino acid metabolism reduces ammonia stress in the Î±1-antitrypsin producing human AGE1.HN cell line. Metabolic Engineering, 2012, 14, 128-137.	3.6	10
252	Computational tools for metabolic engineering. Metabolic Engineering, 2012, 14, 270-280.	3.6	93
253	Measurement uncertainty of isotopologue fractions in fluxomics determined via mass spectrometry. Analytical and Bioanalytical Chemistry, 2013, 405, 5133-5146.	1.9	10
254	Flux analysis and metabolomics for systematic metabolic engineering of microorganisms. Biotechnology Advances, 2013, 31, 818-826.	6.0	103
255	Nonâ€stationary 13Câ€metabolic flux ratio analysis. Biotechnology and Bioengineering, 2013, 110, 3164-3176.	1.7	41
256	Publishing 13C metabolic flux analysis studies: A review and future perspectives. Metabolic Engineering, 2013, 20, 42-48.	3.6	91
257	Designer labels for plant metabolism: statistical design of isotope labeling experiments for improved quantification of flux in complex plant metabolic networks. Molecular BioSystems, 2013, 9, 99-112.	2.9	27
258	Two-stage oxygen supply strategy for enhanced lipase production by Bacillus subtilis based on metabolic flux analysis. Biochemical Engineering Journal, 2013, 71, 1-10.	1.8	18
259	Combinatorial genetic perturbation to refine metabolic circuits for producing biofuels and biochemicals. Biotechnology Advances, 2013, 31, 976-985.	6.0	22
260	Perspectives in Metabolic Engineering: Understanding Cellular Regulation Towards the Control of Metabolic Routes. Applied Biochemistry and Biotechnology, 2013, 169, 55-65.	1.4	10
261	Relationships between metabolic fluxes and enzyme amino acid composition. Open Life Sciences, 2013, 8, 107-120.	0.6	1
263	Metabolic Engineering: Past and Future. Annual Review of Chemical and Biomolecular Engineering, 2013, 4, 259-288.	3.3	254
264	Using Multiple Tracers for 13C Metabolic Flux Analysis. Methods in Molecular Biology, 2013, 985, 353-365.	0.4	15
265	Toward systems metabolic engineering of *Aspergillus* and *Pichia* species for the production of chemicals and biofuels. Biotechnology Journal, 2013, 8, 534-544.	1.8	18
266	Highlighting the tricarboxylic acid cycle: Liquid and gas chromatographyâ€"mass spectrometry analyses of 13C-labeled organic acids. Analytical Biochemistry, 2013, 436, 151-159.	1.1	36
267	Metabolic Engineering of Isoprenoid Biosynthesis. , 2013, , 2813-2851.		5

#	Article	IF	Citations
268	Inventions shaping technological trajectories: do existing patent indicators provide a comprehensive picture?. Scientometrics, 2013, 97, 397-419.	1.6	51
269	Systems Metabolic Engineering. Methods in Molecular Biology, 2013, , .	0.4	3
270	ETA: Robust software for determination of cell specific rates from extracellular time courses. Biotechnology and Bioengineering, 2013, 110, 1748-1758.	1.7	40
271	NTFDâ€"a stand-alone application for the non-targeted detection of stable isotope-labeled compounds in GC/MS data. Bioinformatics, 2013, 29, 1226-1228.	1.8	37
272	Conventional flux balance analysis and its applications. , 2013, , 215-262.		1
273	Insight out: Advances in understanding metabolism achieved by high-throughput mass spectrometry. Biomedical Spectroscopy and Imaging, 2013, 2, 1-8.	1.2	0
274	Elementary Flux Mode Analysis of Acetyl-CoA Pathway in <i>Carboxydothermus hydrogenoformans</i> Z-2901. Advances in Bioinformatics, 2014, 2014, 1-10.	5.7	15
275	Reliable Metabolic Flux Estimation in Escherichia coli Central Carbon Metabolism Using Intracellular Free Amino Acids. Metabolites, 2014, 4, 408-420.	1.3	19
276	Novel Strategy for Non-Targeted Isotope-Assisted Metabolomics by Means of Metabolic Turnover and Multivariate Analysis. Metabolites, 2014, 4, 722-739.	1.3	10
277	Computational Strategies for a System-Level Understanding of Metabolism. Metabolites, 2014, 4, 1034-1087.	1.3	54
279	Relationship between Metabolic Fluxes and Sequence-Derived Properties of Enzymes. International Scholarly Research Notices, 2014, 2014, 1-9.	0.9	2
280	Methods for integration of transcriptomic data in genome-scale metabolic models. Computational and Structural Biotechnology Journal, 2014, 11, 59-65.	1.9	75
281	Biofuels and Bioproducts Produced through Microbial Conversion of Biomass. , 2014, , 71-93.		16
282	Production of medium chain length polyhydroxyalkanoate in metabolic flux optimized Pseudomonas putida. Microbial Cell Factories, 2014, 13, 88.	1.9	98
283	Production of scopularide A in submerged culture with Scopulariopsis brevicaulis. Microbial Cell Factories, 2014, 13, 89.	1.9	10
284	Biotechnological production of carotenoids by yeasts: an overview. Microbial Cell Factories, 2014, 13, 12.	1.9	339
285	Comparative structural profiling of trichome specialized metabolites in tomato (Solanum) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 107 Td (2014, 10, 496-507.	1.4	63
287	Mathematical Modeling of Isotope Labeling Experiments for Metabolic Flux Analysis. Methods in Molecular Biology, 2014, 1083, 109-131.	0.4	5

#	Article	IF	Citations
288	Improving the NADH-cofactor specificity of the highly active AdhZ3 and AdhZ2 from Escherichia coli K-12. Journal of Biotechnology, 2014, 189, 157-165.	1.9	16
289	Irreversible thermodynamics of open chemical networks. I. Emergent cycles and broken conservation laws. Journal of Chemical Physics, 2014, 141, 024117.	1.2	96
290	A novel platform for automated high-throughput fluxome profiling of metabolic variants. Metabolic Engineering, 2014, 25, 8-19.	3.6	33
291	Central metabolic responses to the overproduction of fatty acids in <i>Escherichia coli</i> based on ¹³Câ€metabolic flux analysis. Biotechnology and Bioengineering, 2014, 111, 575-585.	1.7	112
292	13C Isotope-Assisted Methods for Quantifying Glutamine Metabolism in Cancer Cells. Methods in Enzymology, 2014, 542, 369-389.	0.4	41
293	Cloning and Functional Characterization of Three Branch Point Oxidosqualene Cyclases from Withania somnifera (L.) Dunal. Journal of Biological Chemistry, 2014, 289, 17249-17267.	1.6	71
294	Elucidation of intrinsic biosynthesis yields using 13C-based metabolism analysis. Microbial Cell Factories, 2014, 13, 42.	1.9	18
295	Flux analysis of the Lactobacillus reuteri propanediol-utilization pathway for production of 3-hydroxypropionaldehyde, 3-hydroxypropionic acid and 1,3-propanediol from glycerol. Microbial Cell Factories, 2014, 13, 76.	1.9	71
296	Carbonâ€"nitrogen ratio and inÂvitro assimilate partitioning patterns in Cyrtanthus guthrieae L. Plant Physiology and Biochemistry, 2014, 74, 246-254.	2.8	8
297	Synthesis of polyhydroxyalkanoates from glucose that contain medium-chain-length monomers via the reversed fatty acid Î²-oxidation cycle in Escherichia coli. Metabolic Engineering, 2014, 24, 78-86.	3.6	80
298	Metabolic flux analysis of Escherichia coli knockouts: lessons from the Keio collection and future outlook. Current Opinion in Biotechnology, 2014, 28, 127-133.	3.3	49
299	Metabolic distance estimation based on principle component analysis of metabolic turnover. Journal of Bioscience and Bioengineering, 2014, 118, 350-355.	1.1	14
300	Biosynthonics: Charting the Future Role of Biocatalysis and Metabolic Engineering in Drug Discovery. Industrial & Engineering Chemistry Research, 2014, 53, 18597-18610.	1.8	3
302	Dynamic model for isopropanol production by Cupriavidus necator. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 4388-4393.	0.4	5
303	Recent Advances in Biotechnology and Genomic Approaches for Abiotic Stress Tolerance in Crop Plants. , 2015, , 333-366.		20
305	Multi-Target Analysis and Design of Mitochondrial Metabolism. PLoS ONE, 2015, 10, e0133825.	1.1	8
308	13C flux analysis of cyanobacterial metabolism. Photosynthesis Research, 2015, 126, 19-32.	1.6	38
309	Methods and advances in metabolic flux analysis: a mini-review. Journal of Industrial Microbiology and Biotechnology, 2015, 42, 317-325.	1.4	192

#	ARTICLE	IF	CITATIONS
310	Genome-scale modeling for metabolic engineering. Journal of Industrial Microbiology and Biotechnology, 2015, 42, 327-338.	1.4	82
311	Advances in metabolic engineering of yeasts. , 2015, , 47-64.		0
312	Isotopologue analysis of sugar phosphates in yeast cell extracts by gas chromatography chemical ionization time-of-flight mass spectrometry. Analytical and Bioanalytical Chemistry, 2015, 407, 2865-2875.	1.9	33
313	Metabolic Fluxes in Lactic Acid Bacteriaâ€"A Review. Food Biotechnology, 2015, 29, 185-217.	0.6	11
314	Metabolic glycoengineering bacteria for therapeutic, recombinant protein, and metabolite production applications. Glycoconjugate Journal, 2015, 32, 425-441.	1.4	16
315	Metabolic engineering of Escherichia coli for the production of phenylalanine and related compounds. Applied Biochemistry and Microbiology, 2015, 51, 733-750.	0.3	8
316	Gas Chromatography-Quadrupole Time-of-Flight Mass Spectrometry-Based Determination of Isotopologue and Tandem Mass Isotopomer Fractions of Primary Metabolites for ¹³C-Metabolic Flux Analysis. Analytical Chemistry, 2015, 87, 11792-11802.	3.2	35
317	Quantitative Physiology Approaches to Understand and Optimize Reducing Power Availability in Environmental Bacteria. Springer Protocols, 2015, , 39-70.	0.1	14
318	White biotechnology: State of the art strategies for the development of biocatalysts for biorefining. Biotechnology Advances, 2015, 33, 1653-1670.	6.0	83
319	Application of isotope labeling experiments and 13C flux analysis to enable rational pathway engineering. Current Opinion in Biotechnology, 2015, 36, 50-56.	3.3	33
320	How to measure metabolic fluxes: a taxonomic guide for 13 C fluxomics. Current Opinion in Biotechnology, 2015, 34, 82-90.	3.3	113
321	Visual workflows for 13 C-metabolic flux analysis. Bioinformatics, 2015, 31, 346-354.	1.8	32
322	Metabolomics and fluxomics in biotechnology: current trends. Biotechnologia, 2016, 2, 137-144.	0.3	1
323	Wine Science in the Omics Era: The Impact of Systems Biology on the Future of Wine Research. South African Journal of Enology and Viticulture, 2016, 30, .	0.8	1
324	Progress and Challenges in Microalgal Biodiesel Production. Frontiers in Microbiology, 2016, 7, 1019.	1.5	104
325	Overexpression of a Water-Forming NADH Oxidase Improves the Metabolism and Stress Tolerance of Saccharomyces cerevisiae in Aerobic Fermentation. Frontiers in Microbiology, 2016, 7, 1427.	1.5	8
326	E-Flux2 and SPOT: Validated Methods for Inferring Intracellular Metabolic Flux Distributions from Transcriptomic Data. PLoS ONE, 2016, 11, e0157101.	1.1	38
327	Mannitol Stress Directs Flavonoid Metabolism toward Synthesis of Flavones via Differential Regulation of Two Cytochrome P450 Monooxygenases in Coleus forskohlii. Frontiers in Plant Science, 2016, 7, 985.	1.7	21

#	ARTICLE	IF	CITATIONS
328	Facilitate Collaborations among Synthetic Biology, Metabolic Engineering and Machine Learning. ChemBioEng Reviews, 2016, 3, 45-54.	2.6	16
331	Clinical Bioinformatics for Biomarker Discovery in Targeted Metabolomics. Translational Bioinformatics, 2016, , 213-240.	0.0	3
332	Molecular Mycology: An Introduction. , 2016, , 1-13.		0
333	Fungal Identification: Conventional Approaches and Current Scenario. , 2016, , 31-38.		0
334	Characterization of physiological responses to 22 gene knockouts in Escherichia coli central carbon metabolism. Metabolic Engineering, 2016, 37, 102-113.	3.6	50
335	Metabolic engineering with systems biology tools to optimize production of prokaryotic secondary metabolites. Natural Product Reports, 2016, 33, 933-941.	5.2	52
336	Synthetic biology and regulatory networks: where metabolic systems biology meets control engineering. Journal of the Royal Society Interface, 2016, 13, 20151046.	1.5	47
337	The pentose phosphate pathway leads to enhanced succinic acid flux in biofilms of wild-type Actinobacillus succinogenes. Applied Microbiology and Biotechnology, 2016, 100, 9641-9652.	1.7	11
338	In silico Modeling and Experimental Validation for Improving Methanogenesis from CO2 via M. maripaludis. Springer Theses, 2016, , .	0.0	1
339	Drought Stress Tolerance in Plants: Insights from Metabolomics. , 2016, , 187-216.		18
340	Development of an Integrated Framework for Minimal Cut Set Enumeration in Constraint-Based Models. Advances in Intelligent Systems and Computing, 2016, , 193-201.	0.5	2
341	Green pathways: Metabolic network analysis of plant systems. Metabolic Engineering, 2016, 34, 1-24.	3.6	24
342	A scientific workflow framework for 13C metabolic flux analysis. Journal of Biotechnology, 2016, 232, 12-24.	1.9	18
343	Quantitative metabolic network profiling of Escherichia coli: An overview of analytical methods for measurement of intracellular metabolites. TrAC - Trends in Analytical Chemistry, 2016, 75, 141-150.	5.8	17
344	Whole cell biocatalysts: essential workers from Nature to the industry. Microbial Biotechnology, 2017, 10, 250-263.	2.0	181
345	Synthesis of Sebacic Acid Using a Deâ€¦Novo Designed Retroâ€Aldolase as a Key Catalyst. ChemCatChem, 2017, 9, 1378-1382.	1.8	14
346	Development of a Framework for Metabolic Pathway Analysis-Driven Strain Optimization Methods. Interdisciplinary Sciences, Computational Life Sciences, 2017, 9, 46-55.	2.2	1
347	Vitamin B6 metabolism in microbes and approaches for fermentative production. Biotechnology Advances, 2017, 35, 31-40.	6.0	54

#	Article	IF	Citations
348	Safety assessment of astaxanthin derived from engineered Escherichia coli K-12 using a 13-week repeated dose oral toxicity study and a prenatal developmental toxicity study in rats. Regulatory Toxicology and Pharmacology, 2017, 87, 95-105.	1.3	11
349	Robust identification of metabolic control for microbial l-methionine production following an easy-to-use puristic approach. Metabolic Engineering, 2017, 41, 159-172.	3.6	11
350	Post-genomic Studies and Systems Biology of Actinobacteria: A Brief Overview. , 2017, , 377-395.		0
351	Engineering Microbial Metabolite Dynamics and Heterogeneity. Biotechnology Journal, 2017, 12, 1700422.	1.8	35
352	To be certain about the uncertainty: Bayesian statistics for ^{13}C metabolic flux analysis. Biotechnology and Bioengineering, 2017, 114, 2668-2684.	1.7	27
353	A comprehensive evaluation of constraining amino acid biosynthesis in compartmented models for metabolic flux analysis. Metabolic Engineering Communications, 2017, 5, 34-44.	1.9	12
354	Metabolic engineering of isopropyl alcohol—producing $<i>$Escherichia coli$</i>$ strains with ^{13}C—metabolic flux analysis. Biotechnology and Bioengineering, 2017, 114, 2782-2793.	1.7	26
355	Bioremediation 3.0: Engineering pollutant-removing bacteria in the times of systemic biology. Biotechnology Advances, 2017, 35, 845-866.	6.0	240
356	Natural selection drove metabolic specialization of the chromatophore in Paulinella chromatophora. BMC Evolutionary Biology, 2017, 17, 99.	3.2	11
357	Gas fermentation: cellular engineering possibilities and scale up. Microbial Cell Factories, 2017, 16, 60.	1.9	60
358	Biotechnology of Commercial Microbial Products. , 2017, , 521-542.		0
359	Metabolic Flux Analysis using 13C Isotopes: III. Significance for Systems Biology and Metabolic Engineering. Applied Biochemistry and Microbiology, 2017, 53, 827-841.	0.3	0
360	Assessing and Resolving Model Misspecifications in Metabolic Flux Analysis. Bioengineering, 2017, 4, 48.	1.6	0
361	Improving Acetic Acid Production by Over-Expressing PQQ-ADH in Acetobacter pasteurianus. Frontiers in Microbiology, 2017, 8, 1713.	1.5	23
362	Balancing gene expression without library construction via a reusable sRNA pool. Nucleic Acids Research, 2017, 45, 8116-8127.	6.5	56
363	Gene essentiality, conservation index and co-evolution of genes in cyanobacteria. PLoS ONE, 2017, 12, e0178565.	1.1	11
364	Principles of Metabolic Engineering. , 2017, , 129-151.		0
365	Revisiting the Crabtree/Warburg effect in a dynamic perspective: a fitness advantage against sugar-induced cell death. Cell Cycle, 2018, 17, 688-701.	1.3	59

#	ARTICLE	IF	CITATIONS
367	Production of l-valine from metabolically engineered Corynebacterium glutamicum. Applied Microbiology and Biotechnology, 2018, 102, 4319-4330.	1.7	52
368	A molecular switch that enhances productivity of bioprocesses for heterologous metabolite production. Molecular Systems Design and Engineering, 2018, 3, 550-559.	1.7	4
369	Producing Acetic Acid of Acetobacter pasteurianus by Fermentation Characteristics and Metabolic Flux Analysis. Applied Biochemistry and Biotechnology, 2018, 186, 217-232.	1.4	10
370	Genetic Engineering and Environmental Risk. , 2018, , 69-82.		1
371	Modern Age Environmental Problems and their Remediation. , 2018, , .		18
372	Cyanobacteria: Promising biocatalysts for sustainable chemical production. Journal of Biological Chemistry, 2018, 293, 5044-5052.	1.6	184
373	Reverse engineering the cancer metabolic network using flux analysis to understand drivers of human disease. Metabolic Engineering, 2018, 45, 95-108.	3.6	36
374	Understanding regulation in substrate dependent modulation of growth and production of alcohols in Clostridium sporogenes NCIM 2918 through metabolic network reconstruction and flux balance analysis. Bioresource Technology, 2018, 249, 767-776.	4.8	14
375	A Kinetic Modelling of Enzyme Inhibitions in the Central Metabolism of Yeast Cells. Journal of Physics: Conference Series, 2018, 979, 012066.	0.3	1
377	Enhancing Metabolic Models with Genome-Scale Experimental Data. RNA Technologies, 2018, , 337-350.	0.2	2
378	Metabolism in dense microbial colonies: 13C metabolic flux analysis of E. coli grown on agar identifies two distinct cell populations with acetate cross-feeding. Metabolic Engineering, 2018, 49, 242-247.	3.6	40
379	Evolution of the Metabolic Engineering Community. Metabolic Engineering, 2018, 48, A1-A2.	3.6	2
380	Current trends in Bioinformatics: An Insight. , 2018, , .		1
381	Metabolic Pathway Analysis Employing Bioinformatic Software. , 2018, , 175-192.		0
382	Advancement of Biotechnology by Genetic Modifications. Methods in Molecular Biology, 2018, 1852, 1-43.	0.4	2
383	Potential of metabolic engineering in bacterial nanosilver synthesis. World Journal of Microbiology and Biotechnology, 2018, 34, 138.	1.7	7
384	Systems Metabolic Engineering Approach for Recombinant Protein Production in Microbial Cell Factories. , 2019, , 211-240.		0
386	Development of a regulatory defined medium using a system-oriented strategy to reduce the intracellular constraints. Process Biochemistry, 2019, 87, 10-16.	1.8	7

#	ARTICLE	IF	CITATIONS
388	High-resolution 13C metabolic flux analysis. Nature Protocols, 2019, 14, 2856-2877.	5.5	132
389	Strategies to improve microbial lipid production: Optimization techniques. Biocatalysis and Agricultural Biotechnology, 2019, 22, 101321.	1.5	5
390	Computational Modeling of Anthocyanin Pathway Evolution: Biases, Hotspots, and Trade-offs. Integrative and Comparative Biology, 2019, 59, 585-598.	0.9	25
391	High extracellular lactate causes reductive carboxylation in breast tissue cell lines grown under normoxic conditions. PLoS ONE, 2019, 14, e0213419.	1.1	18
392	Recent trends in metabolic engineering of microbial chemical factories. Current Opinion in Biotechnology, 2019, 60, 188-197.	3.3	88
393	Elevated temperatures do not trigger a conserved metabolic network response among thermotolerant yeasts. BMC Microbiology, 2019, 19, 100.	1.3	16
394	Modular Engineering of Biomass Degradation Pathways. Processes, 2019, 7, 230.	1.3	10
395	EMUlator: An Elementary Metabolite Unit (EMU) Based Isotope Simulator Enabled by Adjacency Matrix. Frontiers in Microbiology, 2019, 10, 922.	1.5	4
396	Proposing a validation scheme for 13C metabolite tracer studies in high-resolution mass spectrometry. Analytical and Bioanalytical Chemistry, 2019, 411, 3103-3113.	1.9	12
397	Effects of NADH Availability on 3-Phenyllactic Acid Production by Lactobacillus plantarum Expressing Formate Dehydrogenase. Current Microbiology, 2019, 76, 706-712.	1.0	9
398	Metabolic Engineering of Enzyme-Regulated Bioprocesses. , 2019, , 293-323.		3
399	Time Integrated Flux Analysis: Exploiting the Concentration Measurements Directly for Cost-Effective Metabolic Network Flux Analysis. Microorganisms, 2019, 7, 620.	1.6	1
400	Potential of Hydrogen Production From Biomass. , 2019, , 123-164.		24
401	Intracellular metabolite profiling and the evaluation of metabolite extraction solvents for Clostridium carboxidivorans fermenting carbon monoxide. Process Biochemistry, 2020, 89, 20-28.	1.8	13
402	Combining mechanistic and machine learning models for predictive engineering and optimization of tryptophan metabolism. Nature Communications, 2020, 11, 4880.	5.8	137
403	Assembly of Plant Enzymes in <i>E. coli</i> for the Production of the Valuable (âˆ')-Podophyllotoxin Precursor (âˆ')-Pluviatolide. ACS Synthetic Biology, 2020, 9, 3091-3103.	1.9	13
404	A numerical study of the sensitivity of ethanol flux to the existence of co-factors in the Central metabolism of a yeast cell using multi-substrate enzymes kinetic modelling. Biotechnology and Biotechnological Equipment, 2020, 34, 375-383.	0.5	1
405	A machine learning Automated Recommendation Tool for synthetic biology. Nature Communications, 2020, 11, 4879.	5.8	129

#	Article	IF	Citations
406	Genomic, transcriptomic, and metabolic characterizations of Escherichia coli adapted to branched-chain higher alcohol tolerance. Applied Microbiology and Biotechnology, 2020, 104, 4171-4184.	1.7	7
408	Development of cellulolytic strain by genetic engineering approach for enhanced cellulase production. , 2020, , 103-136.		12
410	LK-DFBA: a linear programming-based modeling strategy for capturing dynamics and metabolite-dependent regulation in metabolism. BMC Bioinformatics, 2020, 21, 93.	1.2	7
411	Microbial Diversity, Interventions and Scope. , 2020, , .		4
412	Metabolic flux analysis reaching genome wide coverage: lessons learned and future perspectives. Current Opinion in Chemical Engineering, 2020, 30, 17-25.	3.8	7
413	A dynamic model linking cell growth to intracellular metabolism and extracellular by-product accumulation. Biotechnology and Bioengineering, 2020, 117, 1533-1553.	1.7	9
414	Metabolic flux analysis of secondary metabolism in plants. Metabolic Engineering Communications, 2020, 10, e00123.	1.9	44
415	Metabolic Flux Analysis of Catechin Biosynthesis Pathways Using Nanosensor. Antioxidants, 2020, 9, 288.	2.2	12
416	Analysis of plant secondary metabolism using stable isotope-labelled precursors. Phytochemical Analysis, 2021, 32, 62-68.	1.2	4
417	Induced pluripotent stem cells can utilize lactate as a metabolic substrate to support proliferation. Biotechnology Progress, 2021, 37, e3090.	1.3	9
418	A guide to metabolic flux analysis in metabolic engineering: Methods, tools and applications. Metabolic Engineering, 2021, 63, 2-12.	3.6	67
419	RNA Interference (RNAi): A Genetic Tool to Manipulate Plant Secondary Metabolite Pathways. Concepts and Strategies in Plant Sciences, 2021, , 169-198.	0.6	1
420	The metabolic origins of non-photorespiratory CO_2 release during photosynthesis: a metabolic flux analysis. Plant Physiology, 2021, 186, 297-314.	2.3	65
422	Enzymes in biotechnology: Critical platform technologies for bioprocess development. Current Opinion in Biotechnology, 2021, 69, 91-102.	3.3	34
423	Enzymes, *In Vivo* Biocatalysis, and Metabolic Engineering for Enabling a Circular Economy and Sustainability. Chemical Reviews, 2021, 121, 10367-10451.	23.0	111
424	The Role of Metabolic Engineering Technologies for the Production of Fatty Acids in Yeast. Biology, 2021, 10, 632.	1.3	7
425	Recent advances in metabolic engineering—integration of in silico design and experimental analysis of metabolic pathways. Journal of Bioscience and Bioengineering, 2021, 132, 429-436.	1.1	5
426	Developing synthetic microbes to produce indirubin-derivatives. Biocatalysis and Agricultural Biotechnology, 2021, 37, 102162.	1.5	5

#	ARTICLE	IF	CITATIONS
429	Metabolic Flux Maps of Central Carbon Metabolismin Plant Systems. , 2007, , 125-144.		2
430	Microalgal Systems Biology for Biofuel Production. , 2015, , 3-21.		2
431	Heterologous Pathway Engineering. , 2016, , 31-52.		4
432	Plant Systems Biology: Insights and Advancements. , 2015, , 791-819.		6
433	Proline Accumulation and Oxidative Stress: Diverse Roles and Mechanism of Tolerance and Adaptation Under Salinity Stress. , 2019, , 269-300.		25
434	Microbial Strain Engineering. , 2020, , 11-32.		2
435	Bioreactor Models and Modeling Approaches. , 2019, , 663-680.		6
436	Engineering of primary carbon metabolism in filamentous fungi. Biotechnology Advances, 2020, 43, 107551.	6.0	28
437	Engineering an Optogenetic CRISPRi Platform for Improved Chemical Production. ACS Synthetic Biology, 2021, 10, 125-131.	1.9	28
442	Metabolic engineering of. Microbial Cell Factories, 2014, 13, 104.	1.9	19
443	Rapid Prediction of Bacterial Heterotrophic Fluxomics Using Machine Learning and Constraint Programming. PLoS Computational Biology, 2016, 12, e1004838.	1.5	55
444	Inferring Carbon Sources from Gene Expression Profiles Using Metabolic Flux Models. PLoS ONE, 2012, 7, e36947.	1.1	27
445	Exploiting Bioprocessing Fluctuations to Elicit the Mechanistics of De Novo Lipogenesis in Yarrowia lipolytica. PLoS ONE, 2017, 12, e0168889.	1.1	5
446	Osmolytes: Proline metabolism in plants as sensors of abiotic stress. Journal of Applied and Natural Science, 2017, 9, 2079-2092.	0.2	34
447	Biosynthetic Pathway of Carotenoids in Rhodotorula and Strategies for Enhanced Their Production. Journal of Microbiology and Biotechnology, 2019, 29, 507-517.	0.9	39
448	FluxPyt: a Python-based free and open-source software for ^{13}C-metabolic flux analyses. PeerJ, 2018, 6, e4716.	0.9	9
450	Quantitative Analysis of Intracellular Metabolic Fluxes Using GC-MS and Two-Dimensional NMR Spectroscopy.. Journal of Bioscience and Bioengineering, 2002, 93, 78-87.	1.1	2
451	Detergent Enzymes. , 2005, , 673-684.		0

#	Article	IF	Citations
452	Where Have You Gone, Sherman Minton? The Decline of the Short-Term Supreme Court Justice. SSRN Electronic Journal, 0, , .	0.4	0
453	Metabolic flux balance analysis of an industrially useful microorganism Corynebacterium glutamicum by a genome-scale reconstructed model. , 2008, , .		0
454	Metabolic Engineering for the Fabrications of Pharmaceutically Central Metabolites from Microorganisms and Higher Plants. , 2009, , .		0
455	A Software Tool for the Simulation and Optimization of Dynamic Metabolic Models. Lecture Notes in Computer Science, 2009, , 1071-1078.	1.0	0
456	Metabolic Design and Control for Production in Prokaryotes. , 2011, , 217-230.		0
457	Dynamic Metabolic Flux Analysis. , 2013, , 620-624.		0
458	Steady-State and Instationary Modeling of Proteinogenic and Free Amino Acid Isotopomers for Flux Quantification. Methods in Molecular Biology, 2014, 1090, 155-179.	0.4	2
459	BIOPROCESSO DE PRODUÃ‡ÃƒO DO ANTITUMORAL HOLOMICINA POR STREPTOMYCES CLAVULIGERUS. , 0, , .		0
462	Systems Metabolic Engineering of Saccharomyces cerevisiae for Production of Biochemicals from Biomass. , 2017, , 31-65.		0
465	Reduced and Minimal Cell Factories in Bioprocesses: Towards a Streamlined Chassis. , 2020, , 1-44.		4
466	Innovative Techniques for Improving Microbial Enzyme Production. , 2020, , 157-184.		3
467	Model Identifiability. SpringerBriefs in Statistics, 2020, , 37-48.	0.3	0
470	A coarse-grained NADH redox model enables inference of subcellular metabolic fluxes from fluorescence lifetime imaging. ELife, 2021, 10, .	2.8	6
471	Organic waste conversion through anaerobic digestion: A critical insight into the metabolic pathways and microbial interactions. Metabolic Engineering, 2022, 69, 323-337.	3.6	27
472	MetAMDB: Metabolic Atom Mapping Database. Metabolites, 2022, 12, 122.	1.3	2
473	Can polymer-degrading microorganisms solve the bottleneck of plastics' environmental challenges?. Chemosphere, 2022, 294, 133709.	4.2	28
474	Reprint of Organic waste conversion through anaerobic digestion: A critical insight into the metabolic pathways and microbial interactions. Metabolic Engineering, 2022, 71, 62-76.	3.6	24
477	Zusammenfassung und Schlussfolgerungen. , 2022, , 235-255.		0

#	Article	IF	Citations
478	Metabolic Networks, Microbial Consortia, and Analogies to Smart Grids. Proceedings of the IEEE, 2022, 110, 541-556.	16.4	5
480	Microorganisms as Shapers of Human Civilization, from Pandemics to Even Our Genomes: Villains or Friends? A Historical Approach. Microorganisms, 2021, 9, 2518.	1.6	6
501	Recent advances in high-throughput metabolic engineering: Generation of oligonucleotide-mediated genetic libraries. Biotechnology Advances, 2022, 59, 107970.	6.0	3
502	Non-linearity of Metabolic Pathways Critically Influences the Choice of Machine Learning Model. Frontiers in Artificial Intelligence, 0, 5, .	2.0	0
503	An automated workflow that generates atom mappings for large‐scale metabolic models and its application to <i>Arabidopsis thaliana</i>. Plant Journal, 2022, 111, 1486-1500.	2.8	8
504	Designer bacterial cell factories for improved production of commercially valuable non-ribosomal peptides. Biotechnology Advances, 2022, 60, 108023.	6.0	3
505	Optimization and Scale-Up of Fermentation Processes Driven by Models. Bioengineering, 2022, 9, 473.	1.6	17
506	Metabolic engineering of Escherichia coli BW25113 for the production of 5-Aminolevulinic Acid based on CRISPR/Cas9 mediated gene knockout and metabolic pathway modification. Journal of Biological Engineering, 2022, 16, .	2.0	0
507	Stochastic simulation algorithm for isotope-based dynamic flux analysis. Metabolic Engineering, 2022, , .	3.6	0
509	Genetically personalised organ-specific metabolic models in health and disease. Nature Communications, 2022, 13, .	5.8	7
510	Biovalorization of agricultural wastes for production of industrial enzymes. , 2023, , 107-122.		0
511	A contribution of metabolic engineering to addressing medical problems: Metabolic flux analysis. Metabolic Engineering, 2023, , .	3.6	0
517	Sugar fermentation: C2 (ethanolic) platform. , 2024, , 99-123.		0
519	Secondary Metabolism and Its Role in Enhancing Drought Stress Tolerance. , 2023, , 603-640.		0