A universal framework for 13C metabolic flux analysis

#	Paper	IF	Citations
326	An introduction to 13C metabolic flux analysis. **2002**, 24, 215-38		17
325	Carbohydrate cycling in micro-organisms: what can C-NMR tell us?. **2002**, 26, 375-402		3
324	Analysis of flux estimates based on (13)C-labelling experiments. **2002**, 269, 2795-800		50
323	Carbohydrate cycling in micro-organisms: what can (13)C-NMR tell us?. **2002**, 26, 375-402		49
322	Quantitative approaches for analysing fluxes through plant metabolic networks using NMR and stable isotope labelling. **2003**, 2, 17-30		46
321	An improved method for statistical analysis of metabolic flux analysis using isotopomer mapping matrices with analytical expressions. **2003**, 105, 117-33		47
320	Metabolic isotopomer labeling systems. Part II: structural flux identifiability analysis. **2003**, 183, 175-214		39
319	A flux model of glycolysis and the oxidative pentosephosphate pathway in developing Brassica napus embryos. **2003**, 278, 29442-53		205
318	Quantification of Metabolic Fluxes. **2003**,		
317	Understanding flux in plant metabolic networks. **2004**, 7, 309-17		147
316	New tools for mass isotopomer data evaluation in (13)C flux analysis: mass isotope correction, data consistency checking, and precursor relationships. **2004**, 85, 259-68		140
315	A critical perspective of the use of (13)C-isotopomer analysis by GCMS and NMR as applied to cardiac metabolism. *Metabolic Engineering*, **2004**, 6, 44-58	9.7	64
314	Metabolic network simulation using logical loop algorithm and Jacobian matrix. *Metabolic Engineering*, **2004**, 6, 256-67	9.7	15
313	Improvements in metabolic flux analysis using carbon bond labeling experiments: bondomer balancing and Boolean function mapping. *Metabolic Engineering*, **2004**, 6, 116-32	9.7	41
312	In-depth profiling of lysine-producing Corynebacterium glutamicum by combined analysis of the transcriptome, metabolome, and fluxome. **2004**, 186, 1769-84		181
311	A global optimization approach for metabolic flux quantification. **2004**, 18, 1117-1122		
310	Application of metabolome data in functional genomics: a conceptual strategy. *Metabolic Engineering*, **2005**, 7, 302-10	9.7	17

291	Response of the central metabolism of Escherichia coli to modified expression of the gene encoding the glucose-6-phosphate dehydrogenase. **2007**, 581, 3771-6		49
290	A metabolic flux analysis to study the role of sucrose synthase in the regulation of the carbon partitioning in central metabolism in maize root tips. *Metabolic Engineering*, **2007**, 9, 419-32	9.7	50
289	Plant Systems Biology. **2007**,		1
288	Concepts in Plant Metabolomics. **2007**,		5
287	Metabolic Flux Estimation in Mammalian Cell Cultures. **2007**, 301-317		1
286	Animal Cell Biotechnology. **2007**,		11
285	Flux analysis of central metabolic pathways in Geobacter metallireducens during reduction of soluble Fe(III)-nitrilotriacetic acid. **2007**, 73, 3859-64		52
284	Fluxome analysis using GC-MS. **2007**, 6, 6		170
283	The thermodynamic meaning of metabolic exchange fluxes. **2007**, 93, 2255-64		36
282	Toward metabolome-based 13C flux analysis: a universal tool for measuring in vivo metabolic activity. **2007**, 129-157		4
281	Determining Actinobacillus succinogenes metabolic pathways and fluxes by NMR and GC-MS analyses of 13C-labeled metabolic product isotopomers. *Metabolic Engineering*, **2007**, 9, 177-92	9.7	114
280	Application of 2D-TOCSY NMR to the measurement of specific(13C-enrichments in complex mixtures of 13C-labeled metabolites. *Metabolic Engineering*, **2007**, 9, 252-7	9.7	45
279	An interval approach for dealing with flux distributions and elementary modes activity patterns. **2007**, 246, 290-308		44
278	A transient isotopic labeling methodology for 13C metabolic flux analysis of photoautotrophic microorganisms. **2007**, 68, 2302-12		87
277	Compartment-specific labeling information in 13C metabolic flux analysis of plants. **2007**, 68, 2197-210		92
276	Experimental and mathematical approaches to modeling plant metabolic networks. **2007**, 68, 2351-74		89
275	Determination of metabolic fluxes in a non-steady-state system. **2007**, 68, 2313-9		39
274	Matrix-assisted laser desorption/ionization time-of-flight mass spectrometry for metabolic flux analyses using isotope-labeled ethanol. **2007**, 21, 336-42		8

273   Estimation of metabolic fluxes, expression levels and metabolite dynamics of a secondary metabolic pathway in potato using label pulse-feeding experiments combined with kinetic network modelling and simulation. **2007**, 50, 176-87   43

272   Carbon conversion efficiency and central metabolic fluxes in developing sunflower (Helianthus annuus L.) embryos. **2007**, 52, 296-308   134

271   The topology of metabolic isotope labeling networks. **2007**, 8, 315   24

270   Parallel determination of enzyme activities and in vivo fluxes in Brassica napus embryos grown on organic or inorganic nitrogen source. **2007**, 68, 2232-42   100

269   Vacuolar compartmentation complicates the steady-state analysis of glucose metabolism and forces reappraisal of sucrose cycling in plants. **2007**, 68, 2189-96   32

268   Metabolic flux analysis in biotechnology processes. **2008**, 30, 791-9   39

267   Metabolic flux and robustness analysis of glycerol metabolism in Klebsiella pneumoniae. **2008**, 31, 127-35   46

266   Visual exploration of isotope labeling networks in 3D. **2008**, 31, 227-39   17

265   FiD: a software for ab initio structural identification of product ions from tandem mass spectrometric data. **2008**, 22, 3043-52   104

264   Identification of metabolic fluxes in hepatic cells from transient 13C-labeling experiments: Part II. Flux estimation. **2008**, 100, 355-70   74

263   Isotopomer subspaces as indicators of metabolic-pathway structure. **2008**, 252, 391-401   7

262   Dynamics of Positional Enrichment: Theoretical Development and Application to Carbon Labeling in Zymomonas mobilis. **2008**, 40, 157-174   6

261   13C-metabolic flux analysis of Actinobacillus succinogenes fermentative metabolism at different NaHCO3 and H2 concentrations. *Metabolic Engineering*, **2008**, 10, 55-68   9.7   75

260   Metabolic flux maps comparing the effect of temperature on protein and oil biosynthesis in developing soybean cotyledons. **2008**, 31, 506-17   78

259   13C labeling experiments at metabolic nonstationary conditions: an exploratory study. **2008**, 9, 152   45

258   An analytic and systematic framework for estimating metabolic flux ratios from 13C tracer experiments. **2008**, 9, 266   34

257   Metabolic flux analysis in plants: from intelligent design to rational engineering. **2008**, 59, 625-50   86

256   Stoichiometric modelling of cell metabolism. **2008**, 105, 1-11   127

219	Predicting metabolic pathways from metabolic networks with limited biological knowledge. **2010**,	1
218	Calvin cycle flux, pathway constraints, and substrate oxidation state together determine the H2 biofuel yield in photoheterotrophic bacteria. **2011**, 2,	71
217	The Role of Metabolomics in the Study of Kidney Diseases and in the Development of Diagnostic Tools. **2011**, 39-100	4
216	Metabolic flux analysis in systems biology of mammalian cells. **2012**, 127, 109-32	27
215	TARDIS-based microbial metabolomics: time and relative differences in systems. **2011**, 19, 315-22	37
214	Advanced stoichiometric analysis of metabolic networks of mammalian systems. **2011**, 39, 511-34	24
213	Experimental flux measurements on a network scale. **2011**, 2, 63	15
212	Editorial overview - computational approaches in aid of advancing understanding in plant physiology. **2011**, 2, 78	1
211	Modeling soil metabolic processes using isotopologue pairs of position-specific 13C-labeled glucose and pyruvate. **2011**, 43, 1848-1857	52
210	Metabolic flux network and analysis of fermentative hydrogen production. **2011**, 29, 375-87	85
209	The benefits of being transient: isotope-based metabolic flux analysis at the short time scale. **2011**, 91, 1247-65	64
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. **2011**, 16, 419-437	17
207	Steady state-13C-Flussanalysen in Pflanzen. **2011**, 17, 230-232	3
206	Fluxomers: a new approach for 13C metabolic flux analysis. **2011**, 5, 129	39
205	Genome-scale reconstruction and system level investigation of the metabolic network of Methylobacterium extorquens AM1. **2011**, 5, 189	91
204	Metabolic flux analysis of CHO cell metabolism in the late non-growth phase. **2011**, 108, 82-92	95
203	13C metabolic flux analysis in complex systems. **2011**, 22, 103-8	136
202	Stationary versus non-stationary (13)C-MFA: a comparison using a consistent dataset. **2011**, 154, 179-90	55

201	Central metabolic fluxes in the endosperm of developing maize seeds and their implications for metabolic engineering. *Metabolic Engineering*, **2011**, 13, 96-107	9.7	86
200	Synergy between (13)C-metabolic flux analysis and flux balance analysis for understanding metabolic adaptation to anaerobiosis in E. coli. *Metabolic Engineering*, **2011**, 13, 38-48	9.7	107
199	Capturing metabolite channeling in metabolic flux phenotypes. **2011**, 157, 981-4		36
198	⃞C metabolic flux analysis identifies an unusual route for pyruvate dissimilation in mycobacteria which requires isocitrate lyase and carbon dioxide fixation. **2011**, 7, e1002091		95
197	Elementary mode analysis: a useful metabolic pathway analysis tool for reprograming microbial metabolic pathways. **2012**, 64, 21-42		8
196	influx_s: increasing numerical stability and precision for metabolic flux analysis in isotope labelling experiments. **2012**, 28, 687-93		48
195	Relevance of the MEK/ERK signaling pathway in the metabolism of activated macrophages: a metabolomic approach. **2012**, 188, 1402-10		49
194	Mathematical optimization applications in metabolic networks. *Metabolic Engineering*, **2012**, 14, 672-86	9.7	100
193	13C-flux analysis reveals NADPH-balancing transhydrogenation cycles in stationary phase of nitrogen-starving Bacillus subtilis. **2012**, 287, 27959-70		46
192	Expanding the concepts and tools of metabolic engineering to elucidate cancer metabolism. **2012**, 28, 1409-18		15
191	Metabolic flux analysis of the central carbon metabolism of the industrial vitamin B12 producing strain Pseudomonas denitrificans using 13C-labeled glucose. **2012**, 43, 181-187		6
190	An integrated computational and experimental study for overproducing fatty acids in Escherichia coli. *Metabolic Engineering*, **2012**, 14, 687-704	9.7	86
189	Recent advances in mapping environmental microbial metabolisms through 13C isotopic fingerprints. **2012**, 9, 2767-80		31
188	Strategies for investigating the plant metabolic network with steady-state metabolic flux analysis: lessons from an Arabidopsis cell culture and other systems. **2012**, 63, 2309-23		55
187	Metabolic modelling in the development of cell factories by synthetic biology. **2012**, 3, e201210009		12
186	Are we ready for genome-scale modeling in plants?. **2012**, 191-192, 53-70		49
185	The ethylmalonyl-CoA pathway is used in place of the glyoxylate cycle by Methylobacterium extorquens AM1 during growth on acetate. **2012**, 287, 757-766		53
184	Substrate cycles in Penicillium chrysogenum quantified by isotopic non-stationary flux analysis. **2012**, 11, 140		17

183	FluxMap: a VANTED add-on for the visual exploration of flux distributions in biological networks. **2012**, 6, 33	27
182	Rational design of □□C-labeling experiments for metabolic flux analysis in mammalian cells. **2012**, 6, 43	79
181	Proteo-Metabolomic Strategies in the Future of Drug Development. **2012**, 691-774	4
180	Genome-scale metabolic models: reconstruction and analysis. **2012**, 799, 107-26	41
179	Glycogen is the primary source of glucose during the lag phase of E. coli proliferation. **2012**, 1824, 1442-8	21
178	Towards high throughput metabolic flux analysis in plants. **2012**, 8, 2466-9	7
177	Metabolic pathway determination and flux analysis in nonmodel microorganisms through 13C-isotope labeling. **2012**, 881, 309-30	11
176	Metabolic Flux Analysis. **2012**, 231-277	1
175	Genomics and Systems Biology of Mammalian Cell Culture. **2012**,	4
174	iMS2Flux--a high-throughput processing tool for stable isotope labeled mass spectrometric data used for metabolic flux analysis. **2012**, 13, 295	31
173	Minimal cut sets and the use of failure modes in metabolic networks. **2012**, 2, 567-95	2
172	Flux-p: automating metabolic flux analysis. **2012**, 2, 872-90	22
171	Analysis of carbon and nitrogen co-metabolism in yeast by ultrahigh-resolution mass spectrometry applying 13C- and 15N-labeled substrates simultaneously. **2012**, 403, 2291-305	21
170	Stable isotope-resolved metabolomics and applications for drug development. **2012**, 133, 366-91	148
169	Computational tools for metabolic engineering. *Metabolic Engineering*, **2012**, 14, 270-80	9.7	77
168	Collisional fragmentation of central carbon metabolites in LC-MS/MS increases precision of □□C metabolic flux analysis. **2012**, 109, 763-71	79
167	Computational approaches for understanding energy metabolism. **2013**, 5, 733-50	11
166	A method for accounting for maintenance costs in flux balance analysis improves the prediction of plant cell metabolic phenotypes under stress conditions. **2013**, 75, 1050-61	80

165   Corynebacterium glutamicum. **2013**,   24

164   The metabolic flux phenotype of heterotrophic Arabidopsis cells reveals a complex response to changes in nitrogen supply. **2013**, 74, 569-82   70

163   13C-flux spectral analysis of host-pathogen metabolism reveals a mixed diet for intracellular Mycobacterium tuberculosis. **2013**, 20, 1012-21   106

162   Publishing 13C metabolic flux analysis studies: a review and future perspectives. *Metabolic Engineering*, **2013**, 20, 42-8   9.7   71

161   Integrating gene and protein expression data with genome-scale metabolic networks to infer functional pathways. **2013**, 7, 134   5

160   Experimental evidence and isotopomer analysis of mixotrophic glucose metabolism in the marine diatom Phaeodactylum tricornutum. **2013**, 12, 109   27

159   Cell-specific gene expression in Anabaena variabilis grown phototrophically, mixotrophically, and heterotrophically. **2013**, 14, 759   29

158   Dynamic metabolic profiling and metabolite network and pathways modeling. **2013**, 335-363

157   Algorithms to infer metabolic flux ratios from fluxomics data. **2013**,

156   Designer labels for plant metabolism: statistical design of isotope labeling experiments for improved quantification of flux in complex plant metabolic networks. **2013**, 9, 99-112   24

155   Cloud MapReduce for Monte Carlo bootstrap applied to Metabolic Flux Analysis. **2013**, 29, 582-590   10

154   Metabolic Flux Analysis. **2013**, 285-312   3

153   Analysis of metabolic flux using dynamic labelling and metabolic modelling. **2013**, 36, 1738-50   42

152   Fluxomics - connecting omics analysis and phenotypes. **2013**, 15, 1901-16   84

151   Metabolic isotopomer labeling systems. Part III: path tracing. **2013**, 244, 1-12   5

150   Metabolic engineering with plants for a sustainable biobased economy. **2013**, 4, 211-37   21

149   Different Omics Approaches in Cereals and Their Possible Implications for Developing a System Biology Approach to Study the Mechanism of Abiotic Stress Tolerance. **2013**, 177-214

148   Parallel labeling experiments and metabolic flux analysis: Past, present and future methodologies. *Metabolic Engineering*, **2013**, 16, 21-32   9.7   64

147	Metabolic Engineering of Isoprenoid Biosynthesis. **2013**, 2813-2851	1
146	Low mass MS/MS fragments of protonated amino acids used for distinction of their 13C-isotopomers in metabolic studies. **2013**, 24, 622-31	8
145	Metabolic network modeling approaches for investigating the "hungry cancer". **2013**, 23, 227-34	11
144	Messung von intrazellulären Stoffflüssen in Pflanzen. **2013**, 19, 690-693	1
143	Pathways at Work: Metabolic Flux Analysis of the Industrial Cell Factory Corynebacterium glutamicum. **2013**, 217-237	4
142	Metabolic engineering: Use of system-level approaches and application to fuel production in Escherichia coli. **2013**, 16,	2
141	Flux response of glycolysis and storage metabolism during rapid feast/famine conditions in Penicillium chrysogenum using dynamic (13)C labeling. **2014**, 9, 372-85	31
140	High-throughput data pipelines for metabolic flux analysis in plants. **2014**, 1090, 223-46	4
139	Application of metabolic flux analysis to plants. **2014**, 1090, 1-17	8
138	A peptide-based method for 13C Metabolic Flux Analysis in microbial communities. **2014**, 10, e1003827	43
137	Improving Metabolic Flux Estimation of Metabolic Networks by QPSO with Penalty Function. **2014**,	
136	Metabolic Flux Analysis. **2014**,	3
135	Isotopic studies of metabolic systems by mass spectrometry: using Pascal's triangle to produce biological standards with fully controlled labeling patterns. **2014**, 86, 10288-95	19
134	OpenFLUX2: (13)C-MFA modeling software package adjusted for the comprehensive analysis of single and parallel labeling experiments. **2014**, 13, 152	18
133	OpenMebius: an open source software for isotopically nonstationary 13C-based metabolic flux analysis. **2014**, 2014, 627014	72
132	IsoDesign: a software for optimizing the design of 13C-metabolic flux analysis experiments. **2014**, 111, 202-8	26
131	Flux analysis in plant metabolic networks: increasing throughput and coverage. **2014**, 26, 183-8	24
130	Mathematical modeling of isotope labeling experiments for metabolic flux analysis. **2014**, 1083, 109-31	3

129   Quantification of ¹³C enrichments and isotopomer abundances for metabolic flux analysis using 1D NMR spectroscopy. **2014**, 1090, 73-86   9

128   A Systems Biology Approach to Study Metabolic Syndrome. **2014**,   1

127   (13)C metabolic flux analysis of recombinant expression hosts. **2014**, 30, 238-45   24

126   Accurate Determination of 13C Isotopic Abundance of Free Intracellular Amino acids with Low Concentration by GC-MS-Selective Ion Monitoring Method. **2014**, 42, 1408-1413   3

125   Ethylene-forming enzyme and bioethylene production. **2014**, 7, 33   70

124   The metabolic flux phenotype of heterotrophic Arabidopsis cells reveals a flexible balance between the cytosolic and plastidic contributions to carbohydrate oxidation in response to phosphate limitation. **2014**, 78, 964-77   44

123   Metabolic network discovery by top-down and bottom-up approaches and paths for reconciliation. **2014**, 2, 62   12

122   A Primer to 13C Metabolic Flux Analysis. **2015**, 97-142   7

121   Impact of kinetic isotope effects in isotopic studies of metabolic systems. **2015**, 9, 64   20

120   Designer Microorganisms for Optimized Redox Cascade Reactions Challenges and Future Perspectives. **2015**, 357, 1587-1618   45

119   Effective Estimation of Dynamic Metabolic Fluxes Using (13)C Labeling and Piecewise Affine Approximation: From Theory to Practical Applicability. **2015**, 5, 697-719   10

118   Theoretical Basis for Dynamic Label Propagation in Stationary Metabolic Networks under Step and Periodic Inputs. **2015**, 10, e0144652   2

117   Plant Metabolomics: An Overview of Technology Platforms for Applications in Metabolism. **2015**, 257-298   1

116   Metabolic Modeling of Dynamic (13)C NMR Isotopomer Data in the Brain In Vivo: Fast Screening of Metabolic Models Using Automated Generation of Differential Equations. **2015**, 40, 2482-92   11

115   GC-MS-Based Determination of Mass Isotopomer Distributions for 13C-Based Metabolic Flux Analysis. **2015**, 223-243   4

114   Integrated 13C-metabolic flux analysis of 14 parallel labeling experiments in Escherichia coli. *Metabolic Engineering*, **2015**, 28, 151-158   9.7   76

113   Recent advances in elementary flux modes and yield space analysis as useful tools in metabolic network studies. **2015**, 31, 1315-28   2

112   Metabolic Fluxes in Lactic Acid Bacteria A Review. **2015**, 29, 185-217   10

111	Tracking the metabolic pulse of plant lipid production with isotopic labeling and flux analyses: Past, present and future. **2015**, 58, 97-120		63
110	Multi-objective experimental design for (13)C-based metabolic flux analysis. **2015**, 268, 22-30		14
109	Visual workflows for 13C-metabolic flux analysis. **2015**, 31, 346-54		23
108	Quantification of Microbial Phenotypes. **2016**, 6,		2
107	WUFlux: an open-source platform for C metabolic flux analysis of bacterial metabolism. **2016**, 17, 444		25
106	Simultaneous tracing of carbon and nitrogen isotopes in human cells. **2016**, 12, 1929-37		17
105	Quantitative Analysis of Cancer Metabolism: From pSIRM to MFA. **2016**, 207, 207-20		3
104	Metabolic flux analyses of Pseudomonas aeruginosa cystic fibrosis isolates. *Metabolic Engineering*, **2016**, 38, 251-263	9.7	6
103	Difference in C3-C4 metabolism underlies tradeoff between growth rate and biomass yield in Methylobacterium extorquens AM1. **2016**, 16, 156		9
102	Fast exchange fluxes around the pyruvate node: a leaky cell model to explain the gain and loss of unlabelled and labelled metabolites in a tracer experiment. **2016**, 4, 13		13
101	Natural isotope correction of MS/MS measurements for metabolomics and (13)C fluxomics. **2016**, 113, 1137-47		32
100	Identification of metabolic pathways using pathfinding approaches: a systematic review. **2017**, 16, 87-98		7
99	A scientific workflow framework for (13)C metabolic flux analysis. **2016**, 232, 12-24		14
98	Synergizing C Metabolic Flux Analysis and Metabolic Engineering for Biochemical Production. **2018**, 162, 265-299		5
97	Fluxomics links cellular functional analyses to whole-plant phenotyping. **2017**, 68, 2083-2098		25
96	The best models of metabolism. **2017**, 9, e1391		27
95	Channeling in native microbial pathways: Implications and challenges for metabolic engineering. **2017**, 35, 805-814		39
94	13C Flux Analysis in Biotechnology and Medicine. **2017**, 25-70		3

75	Ex vivo and in vivo stable isotope labelling of central carbon metabolism and related pathways with analysis by LC-MS/MS. **2019**, 14, 313-330		54
74	The Design of FluxML: A Universal Modeling Language for C Metabolic Flux Analysis. **2019**, 10, 1022		14
73	Position-Specific Metabolic Probing and Metagenomics of Microbial Communities Reveal Conserved Central Carbon Metabolic Network Activities at High Temperatures. **2019**, 10, 1427		3
72	Therapeutic Implication of SOCS1 Modulation in the Treatment of Autoimmunity and Cancer. *Frontiers in Pharmacology*, **2019**, 10, 324	5.6	23
71	C-Fingerprinting and Metabolic Flux Analysis of Bacterial Metabolisms. **2019**, 1927, 215-230		2
70	Microbial Metabolic Engineering. **2019**,		1
69	A Combined Metabolomics and Fluxomics Analysis Identifies Steps Limiting Oil Synthesis in Maize Embryos. **2019**, 181, 961-975		18
68	Insights into the spatial and temporal organisation of plant metabolism from network flux analysis. **2019**, 31, 215-226		4
67	Microbial Biodiversity and Bioremediation Assessment Through Omics Approaches. **2020**, 1,		48
66	Validity of natural isotope abundance correction for metabolic flux analysis. **2020**, 330, 108481		2
65	13C analysis of fatty acid fragments by gas chromatography mass spectrometry for metabolic flux analysis. **2020**, 284, 92-106		5
64	Towards model-driven characterization and manipulation of plant lipid metabolism. **2020**, 80, 101051		9
63	Dynamic C Flux Analysis Captures the Reorganization of Adipocyte Glucose Metabolism in Response to Insulin. **2020**, 23, 100855		11
62	High Flux Through the Oxidative Pentose Phosphate Pathway Lowers Efficiency in Developing Camelina Seeds. **2020**, 182, 493-506		5
61	Corynebacterium glutamicum. **2020**,		5
60	Metabolic Modeling and Omics Data Integration: A Systems Biology Approach to Food Science. **2021**, 396-417		
59	Optimal experimental design for linear time invariant state space models. **2021**, 31, 1		0
58	An energetic profile of Corynebacterium glutamicum underpinned by measured biomass yield on ATP. *Metabolic Engineering*, **2021**, 65, 66-78	9.7	3

57	Quantitative Metabolic Flux Analysis Based on Isotope Labeling. **2021**, 73-136	0
56	Inclusion of maintenance energy improves the intracellular flux predictions of CHO. **2021**, 17, e1009022	0
55	Robustifying Experimental Tracer Design forC-Metabolic Flux Analysis. **2021**, 9, 685323	1
54	Recent advances in metabolic engineering-integration of in silico design and experimental analysis of metabolic pathways. **2021**, 132, 429-436	1
53	Metabolic engineering of Zymomonas moblis for ethylene production from straw hydrolysate. **2021**, 105, 1709-1720	4
52	Metabolic Flux Maps of Central Carbon Metabolismin Plant Systems. **2007**, 125-144	2
51	Successful downsizing for high-throughput ⬚C-MFA applications. **2014**, 1191, 127-42	3
50	Optimization of steady-state ⬚C-labeling experiments for metabolic flux analysis. **2014**, 1090, 53-72	3
49	Liquid chromatography tandem mass spectrometry for measuring ⬚C-labeling in intermediates of the glycolysis and pentose phosphate pathway. **2014**, 1090, 131-42	16
48	Metabolic flux estimation in mammalian cell cultures. **2014**, 1104, 193-209	4
47	Pathways at Work: Metabolic Flux Analysis of the Industrial Cell Factory Corynebacterium glutamicum. **2020**, 227-265	2
46	Fluxomics. **2014**, 237-250	3
45	Metabolic Flux Analysis: A Powerful Tool in Animal Cell Culture. **2015**, 521-539	2
44	Metabolic flux analysis: recent advances in carbon metabolism in plants. **2007**, 97, 213-43	12
43	Advancement in Sustainable Agriculture: Computational and Bioinformatics Tools. **2019**, 465-547	4
42	Exploring the Use of Gas Chromatography Coupled to Chemical Ionization Mass Spectrometry (GC-CI-MS) for Stable Isotope Labeling in Metabolomics. **2021**, 93, 1242-1248	3
41	Metabolomics and fluxomics approaches. **2008**, 45, 67-81	82
40	SUMOFLUX: A Generalized Method for Targeted 13C Metabolic Flux Ratio Analysis. **2016**, 12, e1005109	28

39	Efficient Modeling of MS/MS Data for Metabolic Flux Analysis. **2015**, 10, e0130213		10
38	Identifying Metabolic Subpopulations from Population Level Mass Spectrometry. **2016**, 11, e0151659		2
37	Genetic enhancement of phytochemicals: the case of carotenoids. **2003**, 253-279		4
36	Recent Advances in Carbon and Nitrogen Metabolism in C3 Plants. **2020**, 22,		17
35	FluxPyt: a Python-based free and open-source software for C-metabolic flux analyses. **2018**, 6, e4716		6
34	Grid computing for Systems Biology. **2006**, 97-132		
33	Equivalence of Metabolite Fragments and Flow Analysis of Isotopomer Distributions for Flux Estimation. **2006**, 198-220		
32	Labelling analysis for C MFA using NMR spectroscopy. **2014**, 1191, 143-64		1
31	Customization of C-MFA strategy according to cell culture system. **2014**, 1191, 81-90		1
30	Validity of natural isotope abundance correction for metabolic flux analysis.		
29	Unbiased metabolic flux inference through combined thermodynamic and 13C flux analysis.		1
28	Dissecting Host-Pathogen Interactions in TB Using Systems-Based Omic Approaches. *Frontiers in Immunology*, **2021**, 12, 762315	8.4	2
27	Stable Isotopes for Tracing Cardiac Metabolism in Diseases. *Frontiers in Cardiovascular Medicine*, **2021**, 8, 734364	5.4	2
26	and Analysis Identify a Detrimental Impact of Neutrophil Extracellular Traps on Eye Structures in Equine Recurrent Uveitis.. *Frontiers in Immunology*, **2022**, 13, 830871	8.4	0
25	Fluxomics - New Metabolomics Approaches to Monitor Metabolic Pathways.. *Frontiers in Pharmacology*, **2022**, 13, 805782	5.6	1
24	Data_Sheet_1.PDF. **2019**,		
23	Data_Sheet_2.ZIP. **2019**,		
22	Data_Sheet_3.zip. **2019**,		

21   Data_Sheet_1.PDF. **2019**,

20   Data_Sheet_2.PDF. **2019**,

19   Table_1.XLSX. **2019**,

18   Table_10.XLSX. **2019**,

17   Table_11.XLSX. **2019**,

16   Table_12.XLSX. **2019**,

15   Table_13.XLSX. **2019**,

14   Table_2.xlsx. **2019**,

13   Table_3.xlsx. **2019**,

12   Table_4.XLSX. **2019**,

11   Table_5.xlsx. **2019**,

10   Table_6.XLSX. **2019**,

9   Table_7.XLSX. **2019**,

8   Table_8.XLSX. **2019**,

7   Table_9.XLSX. **2019**,

6   An optimization method for untargeted MS-based isotopic tracing investigations of metabolism. *Metabolomics*, **2022**, 18,   4.7   0

5   Metabolic flux analysis: a comprehensive review on sample preparation, analytical techniques, data analysis, computational modelling, and main application areas. **2022**, 12, 25528-25548   0

4   Isotope-Assisted Metabolic Flux Analysis: A Powerful Technique to Gain New Insights into the Human Metabolome in Health and Disease. **2022**, 12, 1066   0

3	Isolated murine skeletal muscles utilize pyruvate over glucose for oxidation. **2022**, 18,	0
2	Progress in understanding and improving oil content and quality in seeds. 14,	0
1	High throughput 13C-metabolic flux analysis of 3-hydroxypropionic acid producing Pichia pastoris reveals limited availability of acetyl-CoA and ATP due to tight control of the glycolytic flux.	0