Ron Milo

List of Publications by Year
in descending order

99 papers	29,681 citations	18482 62 h-index	37204 96 g-index
113 all docs	113 docs citations	113 times ranked	36773 citing authors

#	Article	IF	Citations
1	eQuilibrator 3.0: a database solution for thermodynamic constant estimation. Nucleic Acids Research, 2022, 50, D603-D609.	14.5	70
2	Protection by a Fourth Dose of BNT162b2 against Omicron in Israel. New England Journal of Medicine, 2022, 386, 1712-1720.	27.0	303
3	Protection following BNT162b2 booster in adolescents substantially exceeds that of a fresh 2-dose vaccine. Nature Communications, 2022, 13, 1971.	12.8	10
4	Estimating disease severity of Omicron and Delta SARS-CoV-2 infections. Nature Reviews Immunology, 2022, 22, 267-269.	22.7	138
5	Omicron infection enhances Delta antibody immunity in vaccinated persons. Nature, 2022, 607, 356-359.	27.8	66
6	Protection and Waning of Natural and Hybrid Immunity to SARS-CoV-2. New England Journal of Medicine, 2022, 386, 2201-2212.	27.0	276
7	The distribution of cellular turnover in the human body. Nature Medicine, 2021, 27, 45-48.	30.7	205
8	Photovoltaic-driven microbial protein production can use land and sunlight more efficiently than conventional crops. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	68
9	The total number and mass of SARS-CoV-2 virions. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	187
10	Protection of BNT162b2 Vaccine Booster against Covid-19 in Israel. New England Journal of Medicine, 2021, 385, 1393-1400.	27.0	979
11	Waning Immunity after the BNT162b2 Vaccine in Israel. New England Journal of Medicine, 2021, 385, e85.	27.0	860
12	Protection against Covid-19 by BNT162b2 Booster across Age Groups. New England Journal of Medicine, 2021, 385, 2421-2430.	27.0	185
13	Point mutations in topoisomerase I alter the mutation spectrum in E. coli and impact the emergence of drug resistance genotypes. Nucleic Acids Research, 2020, 48, 761-769.	14.5	13
14	Global human-made mass exceeds all living biomass. Nature, 2020, 588, 442-444.	27.8	344
15	Highly active rubiscos discovered by systematic interrogation of natural sequence diversity. EMBO Journal, 2020, 39, e104081.	7.8	72
16	SARS-CoV-2 (COVID-19) by the numbers. ELife, 2020, 9, .	6.0	826
17	Functional reconstitution of a bacterial CO2 concentrating mechanism in Escherichia coli. ELife, 2020, 9, .	6.0	72
18	Revisiting Trade-offs between Rubisco Kinetic Parameters. Biochemistry, 2019, 58, 3365-3376.	2.5	142

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19	The global mass and average rate of rubisco. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 4738-4743.	7.1	154
20	Towards a quantitative view of the global ubiquity of biofilms. Nature Reviews Microbiology, 2019, 17, 199-200.	28.6	20
21	Conversion of Escherichia coli to Generate All Biomass Carbon from CO2. Cell, 2019, 179, 1255-1263.e12.	28.9	352
22	The Biomass Composition of the Oceans: A Blueprint of Our Blue Planet. Cell, 2019, 179, 1451-1454.	28.9	67
23	The opportunity cost of animal based diets exceeds all food losses. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 3804-3809.	7.1	144
24	A model for â€˜sustainableâ€™ US beef production. Nature Ecology and Evolution, 2018, 2, 81-85.	7.8	23
25	The biomass distribution on Earth. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 6506-6511.	7.1	2,102
26	A Birdâ€™s-Eye View of Enzyme Evolution: Chemical, Physicochemical, and Physiological Considerations. Chemical Reviews, 2018, 118, 8786-8797.	47.7	88
27	Lessons on enzyme kinetics from quantitative proteomics. Current Opinion in Biotechnology, 2017, 46, 81-89.	6.6	64
28	Energetic cost of building a virus. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E4324-E4333.	7.1	89
29	Engineering carbon fixation in E. coli : from heterologous RuBisCO expression to the Calvinâ€“Bensonâ€“Bassham cycle. Current Opinion in Biotechnology, 2017, 47, 83-91.	6.6	38
30	The genetic basis for the adaptation of E. coli to sugar synthesis from CO2. Nature Communications, 2017, 8, 1705.	12.8	39
31	Design principles of autocatalytic cycles constrain enzyme kinetics and force low substrate saturation at flux branch points. ELife, 2017, 6, .	6.0	70
32	Revised Estimates for the Number of Human and Bacteria Cells in the Body. PLoS Biology, 2016, 14, e1002533.	5.6	3,388
33	Environmentally Optimal, Nutritionally Aware Beef Replacement Plant-Based Diets. Environmental Science & Technology, 2016, 50, 8164-8168.	10.0	28
34	Pyruvate Formate-Lyase Enables Efficient Growth of <i>Escherichia coli</i> on Acetate and Formate. Biochemistry, 2016, 55, 2423-2426.	2.5	57
35	pH determines the energetic efficiency of the cyanobacterial CO ₂ concentrating mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E5354-62.	7.1	166
36	Massively Parallel Interrogation of the Effects of Gene Expression Levels on Fitness. Cell, 2016, 166, 1282-1294.e18.	28.9	168

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37	Sugar Synthesis from CO2 in Escherichia coli. Cell, 2016, 166, 115-125.	28.9	272
38	Are We Really Vastly Outnumbered? Revisiting the Ratio of Bacterial to Host Cells in Humans. Cell, 2016, 164, 337-340.	28.9	1,463
39	Global characterization of in vivo enzyme catalytic rates and their correspondence to in vitro <i>k</i> _{cat} measurements. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3401-3406.	7.1	212
40	The Protein Cost of Metabolic Fluxes: Prediction from Enzymatic Rate Laws and Cost Minimization. PLoS Computational Biology, 2016, 12, e1005167.	3.2	144
41	A Minimalistic Resource Allocation Model to Explain Ubiquitous Increase in Protein Expression with Growth Rate. PLoS ONE, 2016, 11, e0153344.	2.5	18
42	Reply to Tichenor: Proposed update to beef greenhouse gas footprint is numerically questionable and well within current uncertainty bounds. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E822-E823.	7.1	0
43	The Moderately Efficient Enzyme: Futile Encounters and Enzyme Floppiness. Biochemistry, 2015, 54, 4969-4977.	2.5	89
44	Noise in gene expression is coupled to growth rate. Genome Research, 2015, 25, 1893-1902.	5.5	83
45	An In Vivo Metabolic Approach for Deciphering the Product Specificity of Glycerate Kinase Proves that Both E. coliâ€™s Glycerate Kinases Generate 2-Phosphoglycerate. PLoS ONE, 2015, 10, e0122957.	2.5	15
46	Noise Genetics: Inferring Protein Function by Correlating Phenotype with Protein Levels and Localization in Individual Human Cells. PLoS Genetics, 2014, 10, e1004176.	3.5	20
47	Pathway Thermodynamics Highlights Kinetic Obstacles in Central Metabolism. PLoS Computational Biology, 2014, 10, e1003483.	3.2	249
48	Visual account of protein investment in cellular functions. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 8488-8493.	7.1	304
49	The quantified cell. Molecular Biology of the Cell, 2014, 25, 3497-3500.	2.1	44
50	Reply to Metson et al.: The importance of phosphorus perturbations. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E4908-E4908.	7.1	0
51	Land, irrigation water, greenhouse gas, and reactive nitrogen burdens of meat, eggs, and dairy production in the United States. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11996-12001.	7.1	375
52	A note on the kinetics of enzyme action: A decomposition that highlights thermodynamic effects. FEBS Letters, 2013, 587, 2772-2777.	2.8	108
53	Design and analysis of metabolic pathways supporting formatotrophic growth for electricity-dependent cultivation of microbes. Biochimica Et Biophysica Acta - Bioenergetics, 2013, 1827, 1039-1047.	1.0	150
54	Quantifying Translational Coupling in <i>E. coli</i> Synthetic Operons Using RBS Modulation and Fluorescent Reporters. ACS Synthetic Biology, 2013, 2, 327-336.	3.8	100

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55	What is the total number of protein molecules per cell volume? A call to rethink some published values. BioEssays, 2013, 35, 1050-1055.	2.5	477
56	Consistent Estimation of Gibbs Energy Using Component Contributions. PLoS Computational Biology, 2013, 9, e1003098.	3.2	231
57	Spanning high-dimensional expression space using ribosome-binding site combinatorics. Nucleic Acids Research, 2013, 41, e98-e98.	14.5	165
58	Promoters maintain their relative activity levels under different growth conditions. Molecular Systems Biology, 2013, 9, 701.	7.2	181
59	Glycolytic strategy as a tradeoff between energy yield and protein cost. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 10039-10044.	7.1	446
60	Steady-State Metabolite Concentrations Reflect a Balance between Maximizing Enzyme Efficiency and Minimizing Total Metabolite Load. PLoS ONE, 2013, 8, e75370.	2.5	67
61	Prediction of Microbial Growth Rate versus Biomass Yield by a Metabolic Network with Kinetic Parameters. PLoS Computational Biology, 2012, 8, e1002575.	3.2	148
62	An integrated open framework for thermodynamics of reactions that combines accuracy and coverage. Bioinformatics, 2012, 28, 2037-2044.	4.1	108
63	eQuilibrator--the biochemical thermodynamics calculator. Nucleic Acids Research, 2012, 40, D770-D775.	14.5	483
64	Achieving Diversity in the Face of Constraints: Lessons from Metabolism. Science, 2012, 336, 1663-1667.	12.6	61
65	Rethinking glycolysis: on the biochemical logic of metabolic pathways. Nature Chemical Biology, 2012, 8, 509-517.	8.0	211
66	Thermodynamic constraints shape the structure of carbon fixation pathways. Biochimica Et Biophysica Acta - Bioenergetics, 2012, 1817, 1646-1659.	1.0	126
67	A proof for loop-law constraints in stoichiometric metabolic networks. BMC Systems Biology, 2012, 6, 140.	3.0	21
68	A survey of carbon fixation pathways through a quantitative lens. Journal of Experimental Botany, 2012, 63, 2325-2342.	4.8	212
69	Efficiency in Evolutionary Trade-Offs. Science, 2012, 336, 1114-1115.	12.6	22
70	Dynamic Proteomics of Human Protein Level and Localization across the Cell Cycle. PLoS ONE, 2012, 7, e48722.	2.5	17
71	Cell-to-cell spread of HIV permits ongoing replication despite antiretroviral therapy. Nature, 2011, 477, 95-98.	27.8	502
72	The Moderately Efficient Enzyme: Evolutionary and Physicochemical Trends Shaping Enzyme Parameters. Biochemistry, 2011, 50, 4402-4410.	2.5	810

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73	Reconstructing a puzzle: existence of cyanophages containing both photosystemâ€ł and photosystemâ€łl gene suites inferred from oceanic metagenomic datasets. Environmental Microbiology, 2011, 13, 24-32.	3.8	46
74	Robust Control of PEP Formation Rate in the Carbon Fixation Pathway of C4 Plants by a Bi-functional Enzyme. BMC Systems Biology, 2011, 5, 171.	3.0	10
75	Hydrophobicity and Charge Shape Cellular Metabolite Concentrations. PLoS Computational Biology, 2011, 7, e1002166.	3.2	65
76	Cross-species analysis traces adaptation of Rubisco toward optimality in a low-dimensional landscape. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3475-3480.	7.1	249
77	BioNumbersâ€"the database of key numbers in molecular and cell biology. Nucleic Acids Research, 2010, 38, D750-D753.	14.5	859
78	Central Carbon Metabolism as a Minimal Biochemical Walk between Precursors for Biomass and Energy. Molecular Cell, 2010, 39, 809-820.	9.7	208
79	SnapShot: Key Numbers in Biology. Cell, 2010, 141, 1262-1262.e1.	28.9	206
80	Design and analysis of synthetic carbon fixation pathways. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 8889-8894.	7.1	402
81	Protein Dynamics in Individual Human Cells: Experiment and Theory. PLoS ONE, 2009, 4, e4901.	2.5	54
82	A feeling for the numbers in biology. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21465-21471.	7.1	100
83	What governs the reaction center excitation wavelength of photosystems I and II?. Photosynthesis Research, 2009, 101, 59-67.	2.9	23
84	HSP90 affects the expression of genetic variation and developmental stability in quantitative traits. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 2963-2968.	7.1	167
85	A paxillin tyrosine phosphorylation switch regulates the assembly and form of cell-matrix adhesions. Journal of Cell Science, 2007, 120, 137-148.	2.0	402
86	Inputâ€"output robustness in simple bacterial signaling systems. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 19931-19935.	7.1	170
87	The relationship between evolutionary and physiological variation in hemoglobin. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 16998-17003.	7.1	37
88	Dynamic proteomics in mammalian cells: capabilities and challenges. Molecular BioSystems, 2007, 3, 542.	2.9	1
89	A central role for Necl4 (SynCAM4) in Schwann cellâ€"axon interaction and myelination. Nature Neuroscience, 2007, 10, 861-869.	14.8	178
90	Generation of a fluorescently labeled endogenous protein library in living human cells. Nature Protocols, 2007, 2, 1515-1527.	12.0	62

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91	Dynamic proteomics in individual human cells uncovers widespread cell-cycle dependence of nuclear proteins. Nature Methods, 2006, 3, 525-531.	19.0	125
92	Variability and memory of protein levels in human cells. Nature, 2006, 444, 643-646.	27.8	526
93	RECURRING HARMONIC WALKS AND NETWORK MOTIFS IN WESTERN MUSIC. International Journal of Modeling, Simulation, and Scientific Computing, 2006, 09, 121-132.	1.4	5
94	Oscillations and variability in the p53 system. Molecular Systems Biology, 2006, 2, 2006.0033.	7.2	539
95	Coarse-graining and self-dissimilarity of complex networks. Physical Review E, 2005, 71, 016127.	2.1	92
96	Network motifs in integrated cellular networks of transcription-regulation and protein-protein interaction. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 5934-5939.	7.1	479
97	Superfamilies of Evolved and Designed Networks. Science, 2004, 303, 1538-1542.	12.6	1,182
98	Network motifs in the transcriptional regulation network of Escherichia coli. Nature Genetics, 2002, 31, 64-68.	21.4	2,603
99	Cell Biology by the Numbers. , 0, , .		645