Hyun Uk Kim

List of Publications by Year
in descending order

79 papers	9,744 citations	76294 40 h-index	71651 76 g-index
84 all docs	84 docs citations	84 times ranked	11255 citing authors

#	Article	IF	Citations
1	antiSMASH 3.0â€"a comprehensive resource for the genome mining of biosynthetic gene clusters. Nucleic Acids Research, 2015, 43, W237-W243.	6.5	1,764
2	antiSMASH 4.0â€"improvements in chemistry prediction and gene cluster boundary identification. Nucleic Acids Research, 2017, 45, W36-W41.	6.5	1,196
3	Minimum Information about a Biosynthetic Gene cluster. Nature Chemical Biology, 2015, 11, 625-631.	3.9	715
4	Current status and applications of genome-scale metabolic models. Genome Biology, 2019, 20, 121.	3.8	463
5	Systems strategies for developing industrial microbial strains. Nature Biotechnology, 2015, 33, 1061-1072.	9.4	433
6	A comprehensive metabolic map for production of bio-based chemicals. Nature Catalysis, 2019, 2, 18-33.	16.1	394
7	Systems metabolic engineering of <i>Escherichia coli</i> for <scp>L</scp> â€threonine production. Molecular Systems Biology, 2007, 3, 149.	3.2	391
8	Deep learning improves prediction of drugâ€"drug and drugâ€"food interactions. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E4304-E4311.	3.3	325
9	MEMOTE for standardized genome-scale metabolic model testing. Nature Biotechnology, 2020, 38, 272-276.	9.4	314
10	Metabolic engineering of Corynebacterium glutamicum for L-arginine production. Nature Communications, 2014, 5, 4618.	5.8	209
11	Microbial production of building block chemicals and polymers. Current Opinion in Biotechnology, 2011, 22, 758-767.	3.3	199
12	Systems biology and biotechnology of Streptomyces species for the production of secondary metabolites. Biotechnology Advances, 2014, 32, 255-268.	6.0	199
13	Application of systems biology for bioprocess development. Trends in Biotechnology, 2008, 26, 404-412.	4.9	169
14	Metabolic engineering of antibiotic factories: new tools for antibiotic production in actinomycetes. Trends in Biotechnology, 2015, 33, 15-26.	4.9	159
15	Integrative genomeâ€scale metabolic analysis of <i>Vibrio vulnificus</i> for drug targeting and discovery. Molecular Systems Biology, 2011, 7, 460.	3.2	157
16	The secondary metabolite bioinformatics portal: Computational tools to facilitate synthetic biology of secondary metabolite production. Synthetic and Systems Biotechnology, 2016, 1, 69-79.	1.8	153
17	Deep learning enables high-quality and high-throughput prediction of enzyme commission numbers. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 13996-14001.	3.3	151
18	Metabolic flux analysis and metabolic engineering of microorganisms. Molecular BioSystems, 2008, 4, 113-120.	2.9	141

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19	Machine learning applications in systems metabolic engineering. Current Opinion in Biotechnology, 2020, 64, 1-9.	3.3	131
20	Metabolic engineering of microorganisms: general strategies and drug production. Drug Discovery Today, 2009, 14, 78-88.	3.2	121
21	Recent development of antiSMASH and other computational approaches to mine secondary metabolite biosynthetic gene clusters. Briefings in Bioinformatics, 2019, 20, 1103-1113.	3.2	118
22	Systems biology as a foundation for genome-scale synthetic biology. Current Opinion in Biotechnology, 2006, 17, 488-492.	3.3	109
23	Genome-scale metabolic network analysis and drug targeting of multi-drug resistant pathogen Acinetobacter baumannii AYE. Molecular BioSystems, 2010, 6, 339-348.	2.9	93
24	Genome-scale analysis of Mannheimia succiniciproducens metabolism. Biotechnology and Bioengineering, 2007, 97, 657-671.	1.7	92
25	A systems approach to traditional oriental medicine. Nature Biotechnology, 2015, 33, 264-268.	9.4	90
26	Current state and applications of microbial genome-scale metabolic models. Current Opinion in Systems Biology, 2017, 2, 10-18.	1.3	87
27	Metabolite-centric approaches for the discovery of antibacterials using genome-scale metabolic networks. Metabolic Engineering, 2010, 12, 105-111.	3.6	62
28	Flux variability scanning based on enforced objective flux for identifying gene amplification targets. BMC Systems Biology, 2012, 6, 106.	3.0	62
29	Production of bulk chemicals via novel metabolic pathways in microorganisms. Biotechnology Advances, 2013, 31, 925-935.	6.0	62
30	Strategies for systemsâ€level metabolic engineering. Biotechnology Journal, 2008, 3, 612-623.	1.8	59
31	Metabolic engineering of <i>Escherichia coli</i> for the enhanced production of <scp>l</scp>â€tyrosine. Biotechnology and Bioengineering, 2018, 115, 2554-2564.	1.7	59
32	A safe and sustainable bacterial cellulose nanofiber separator for lithium rechargeable batteries. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 19288-19293.	3.3	57
33	Bacterial cellulose as an example product for sustainable production and consumption. Microbial Biotechnology, 2017, 10, 1181-1185.	2.0	55
34	Current status of pan-genome analysis for pathogenic bacteria. Current Opinion in Biotechnology, 2020, 63, 54-62.	3.3	54
35	Metabolic engineering with systems biology tools to optimize production of prokaryotic secondary metabolites. Natural Product Reports, 2016, 33, 933-941.	5.2	52
36	Reconstruction of genome-scale human metabolic models using omics data. Integrative Biology (United Kingdom), 2015, 7, 859-868.	0.6	51

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37	Metabolic engineering of Corynebacterium glutamicum for the production of glutaric acid, a C5 dicarboxylic acid platform chemical. Metabolic Engineering, 2019, 51, 99-109.	3.6	50
38	Metabolic network modeling and simulation for drug targeting and discovery. Biotechnology Journal, 2012, 7, 330-342.	1.8	49
39	Genomic and metabolic analysis of <i>Komagataeibacter xylinus</i> DSM 2325 producing bacterial cellulose nanofiber. Biotechnology and Bioengineering, 2019, 116, 3372-3381.	1.7	46
40	Data integration and analysis of biological networks. Current Opinion in Biotechnology, 2010, 21, 78-84.	3.3	44
41	Systems and synthetic biology to elucidate secondary metabolite biosynthetic gene clusters encoded in<i>Streptomyces</i>genomes. Natural Product Reports, 2021, 38, 1330-1361.	5.2	35
42	Recent development of computational resources for new antibiotics discovery. Current Opinion in Microbiology, 2017, 39, 113-120.	2.3	34
43	Toward Systems Metabolic Engineering of Streptomycetes for Secondary Metabolites Production. Biotechnology Journal, 2018, 13, 1700465.	1.8	32
44	Systems approach to characterize the metabolism of liver cancer stem cells expressing CD133. Scientific Reports, 2017, 7, 45557.	1.6	31
45	Framework and resource for more than 11,000 gene-transcript-protein-reaction associations in human metabolism. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E9740-E9749.	3.3	29
46	High-Level Production of the Natural Blue Pigment Indigoidine from Metabolically Engineered <i>Corynebacterium glutamicum</i> for Sustainable Fabric Dyes. ACS Sustainable Chemistry and Engineering, 2021, 9, 6613-6622.	3.2	29
47	Enhanced production of polyâ€'3â€'hydroxybutyrate (PHB) by expression of response regulator DR1558 in recombinant Escherichia coli. International Journal of Biological Macromolecules, 2019, 131, 29-35.	3.6	26
48	Design of homo-organic acid producing strains using multi-objective optimization. Metabolic Engineering, 2015, 28, 63-73.	3.6	25
49	Systematic engineering of TCA cycle for optimal production of a four-carbon platform chemical 4-hydroxybutyric acid in Escherichia coli. Metabolic Engineering, 2016, 38, 264-273.	3.6	25
50	Production of 4-hydroxybutyric acid by metabolically engineered Mannheimia succiniciproducens and its conversion to Î³-butyrolactone by acid treatment. Metabolic Engineering, 2013, 20, 73-83.	3.6	23
51	Systems metabolic engineering as an enabling technology in accomplishing sustainable development goals. Microbial Biotechnology, 2017, 10, 1254-1258.	2.0	23
52	Genomeâ€Scale Metabolic Reconstruction of Actinomycetes for Antibiotics Production. Biotechnology Journal, 2019, 14, e1800377.	1.8	22
53	Predicting biochemical and physiological effects of natural products from molecular structures using machine learning. Natural Product Reports, 2021, 38, 1954-1966.	5.2	20
54	Modeling regulatory networks using machine learning for systems metabolic engineering. Current Opinion in Biotechnology, 2020, 65, 163-170.	3.3	18

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55	Microbial production of multiple short-chain primary amines via retrobiosynthesis. Nature Communications, 2021, 12, 173.	5.8	17
56	Metabolic engineering of <i>Mannheimia succiniciproducens</i> for succinic acid production based on elementary mode analysis with clustering. Biotechnology Journal, 2017, 12, 1600701.	1.8	16
57	A deep learning approach to evaluate the feasibility of enzymatic reactions generated by retrobiosynthesis. Biotechnology Journal, 2021, 16, e2000605.	1.8	16
58	Framework for network modularization and Bayesian network analysis to investigate the perturbed metabolic network. BMC Systems Biology, 2011, 5, S14.	3.0	14
59	Fluxâ€coupled genes and their use in metabolic flux analysis. Biotechnology Journal, 2013, 8, 1035-1042.	1.8	14
60	Omics and Computational Modeling Approaches for the Effective Treatment of Drug-Resistant Cancer Cells. Frontiers in Genetics, 2021, 12, 742902.	1.1	13
61	In silico analysis of the effects of H2 and CO2 on the metabolism of a capnophilic bacterium Mannheimia succiniciproducens. Journal of Biotechnology, 2009, 144, 184-189.	1.9	11
62	Human genes with a greater number of transcript variants tend to show biological features of housekeeping and essential genes. Molecular BioSystems, 2015, 11, 2798-2807.	2.9	11
63	Metabolic Engineering Strategies for the Enhanced Microalgal Production of Longâ€Chain Polyunsaturated Fatty Acids (LCâ€PUFAs). Biotechnology Journal, 2019, 14, e1900043.	1.8	10
64	Machine learning-guided evaluation of extraction and simulation methods for cancer patient-specific metabolic models. Computational and Structural Biotechnology Journal, 2022, 20, 3041-3052.	1.9	8
65	Efficient Production of Naringin Acetate with Different Acyl Donors via Enzymatic Transesterification by Lipases. International Journal of Environmental Research and Public Health, 2022, 19, 2972.	1.2	6
66	Systematic and Comparative Evaluation of Software Programs for Templateâ€Based Modeling of Protein Structures. Biotechnology Journal, 2020, 15, e1900343.	1.8	5
67	Setup of a scientific computing environment for computational biology: Simulation of a genome-scale metabolic model of Escherichia coli as an example. Journal of Microbiology, 2020, 58, 227-234.	1.3	5
68	Engineering Heterologous Hosts for the Enhanced Production of Non-ribosomal Peptides. Biotechnology and Bioprocess Engineering, 2020, 25, 795-809.	1.4	5
69	Effects of introducing heterologous pathways on microbial metabolism with respect to metabolic optimality. Biotechnology and Bioprocess Engineering, 2014, 19, 660-667.	1.4	4
70	Development of computational models using omics data for the identification of effective cancer metabolic biomarkers. Molecular Omics, 2021, 17, 881-893.	1.4	4
71	Predicting Dynamic Clinical Outcomes of the Chemotherapy for Canine Lymphoma Patients Using a Machine Learning Model. Veterinary Sciences, 2021, 8, 301.	0.6	4
72	Systems metabolic engineering of <i>Streptomyces venezuelae</i> for the enhanced production of pikromycin. Biotechnology and Bioengineering, 2022, 119, 2250-2260.	1.7	4

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73	Genome-Scale Network Modeling. , 2012, , 1-23.		2
74	Applications of genome-scale metabolic network models in the biopharmaceutical industry. Pharmaceutical Bioprocessing, 2013, 1, 337-339.	0.8	2
75	Designing Novel Functional Peptides by Manipulating a Temperature in the Softmax Function Coupled with Variational Autoencoder. , 2019, , .		2
76	Comparative genomic analysis of Streptomyces rapamycinicus NRRL 5491 and its mutant overproducing rapamycin. Scientific Reports, 2022, 12, .	1.6	2
77	Systems Biology, Genome-Scale Models, and Metabolic Engineering. , 2009, , .		1
78	Korean Systems Biology and Biotechnology Research. Asia Pacific Biotech News, 2006, 10, 967-977.	0.5	0
79	Construction and Applications of Genome-Scalein silico Metabolic Models for Strain Improvement. , 0, , 355-385.		0