Fuzhong Zhang

List of Publications by Year
in descending order

69 papers	6,335 citations	126708 33 h-index	98622 67 g-index
73 all docs	73 docs citations	73 times ranked	6300 citing authors

#	Article	IF	Citations
1	Microbial engineering for the production of advanced biofuels. Nature, 2012, 488, 320-328.	13.7	951
2	Design of a dynamic sensor-regulator system for production of chemicals and fuels derived from fatty acids. Nature Biotechnology, 2012, 30, 354-359.	9.4	721
3	Engineering dynamic pathway regulation using stress-response promoters. Nature Biotechnology, 2013, 31, 1039-1046.	9.4	411
4	BglBrick vectors and datasheets: A synthetic biology platform for gene expression. Journal of Biological Engineering, 2011, 5, 12.	2.0	391
5	Metabolic engineering of microbial pathways for advanced biofuels production. Current Opinion in Biotechnology, 2011, 22, 775-783.	3.3	313
6	Exploiting nongenetic cell-to-cell variation for enhanced biosynthesis. Nature Chemical Biology, 2016, 12, 339-344.	3.9	209
7	Spectral Tuning of Azobenzene Photoswitches for Biological Applications. Angewandte Chemie - International Edition, 2009, 48, 1484-1486.	7.2	204
8	Biosensors and their applications in microbial metabolic engineering. Trends in Microbiology, 2011, 19, 323-329.	3.5	184
9	Enhancing fatty acid production by the expression of the regulatory transcription factor FadR. Metabolic Engineering, 2012, 14, 653-660.	3.6	173
10	Applications and advances of metabolite biosensors for metabolic engineering. Metabolic Engineering, 2015, 31, 35-43.	3.6	167
11	Recombinant Spidroins Fully Replicate Primary Mechanical Properties of Natural Spider Silk. Biomacromolecules, 2018, 19, 3853-3860.	2.6	159
12	Fundamental Design Principles for Transcription-Factor-Based Metabolite Biosensors. ACS Synthetic Biology, 2017, 6, 1851-1859.	1.9	152
13	Negative Feedback Regulation of Fatty Acid Production Based on a Malonyl-CoA Sensorâ€"Actuator. ACS Synthetic Biology, 2015, 4, 132-140.	1.9	138
14	Development of Synechocystis sp. PCC 6803 as a Phototrophic Cell Factory. Marine Drugs, 2013, 11, 2894-2916.	2.2	112
15	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
16	Photocontrol of Coiledâ€Coil Proteins in Living Cells. Angewandte Chemie - International Edition, 2010, 49, 3943-3946.	7.2	108
17	Engineered Crumpled Graphene Oxide Nanocomposite Membrane Assemblies for Advanced Water Treatment Processes. Environmental Science & Technology, 2015, 49, 6846-6854.	4.6	108
18	Metabolic engineering of the pentose phosphate pathway for enhanced limonene production in the cyanobacterium Synechocysti s sp. PCC 6803. Scientific Reports, 2017, 7, 17503.	1.6	108

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19	Structure-Based Approach to the Photocontrol of Protein Folding. Journal of the American Chemical Society, 2009, 131, 2283-2289.	6.6	98
20	Dynamic control in metabolic engineering: Theories, tools, and applications. Metabolic Engineering, 2021, 63, 126-140.	3.6	93
21	Stabilization of Folded Peptide and Protein Structures via Distance Matching with a Long, Rigid Cross-Linker. Journal of the American Chemical Society, 2007, 129, 14154-14155.	6.6	87
22	Dynamic metabolic control: towards precision engineering of metabolism. Journal of Industrial Microbiology and Biotechnology, 2018, 45, 535-543.	1.4	86
23	Diurnal Regulation of Cellular Processes in the Cyanobacterium <i>Synechocystis</i> sp. Strain PCC 6803: Insights from Transcriptomic, Fluxomic, and Physiological Analyses. MBio, 2016, 7, .	1.8	84
24	In Situ Photocatalytic Synthesis of Ag Nanoparticles (nAg) by Crumpled Graphene Oxide Composite Membranes for Filtration and Disinfection Applications. Environmental Science & Technology, 2016, 50, 2514-2521.	4.6	82
25	Enhanced production of sucrose in the fast-growing cyanobacterium Synechococcus elongatus UTEX 2973. Scientific Reports, 2020, 10, 390.	1.6	71
26	Synthesis of 3,3â€²-bis(sulfonato)-4,4â€²-bis(chloroacetamido)azobenzene and cysteine cross-linking for photo-control of protein conformation and activity. Nature Protocols, 2007, 2, 251-258.	5.5	63
27	Engineering <i>Escherichia coli</i> for Conversion of Glucose to Medium-Chain Ï‰-Hydroxy Fatty Acids and Î±,Ï‰-Dicarboxylic Acids. ACS Synthetic Biology, 2016, 5, 200-206.	1.9	57
28	Enhanced limonene production in a fast-growing cyanobacterium through combinatorial metabolic engineering. Metabolic Engineering Communications, 2021, 12, e00164.	1.9	47
29	Engineering Escherichia coli to produce branched-chain fatty acids in high percentages. Metabolic Engineering, 2016, 38, 148-158.	3.6	42
30	Metabolic Feedback Circuits Provide Rapid Control of Metabolite Dynamics. ACS Synthetic Biology, 2018, 7, 347-356.	1.9	42
31	A concerted systems biology analysis of phenol metabolism in Rhodococcus opacus PD630. Metabolic Engineering, 2019, 55, 120-130.	3.6	37
32	Engineering Microbial Metabolite Dynamics and Heterogeneity. Biotechnology Journal, 2017, 12, 1700422.	1.8	35
33	Microbially Synthesized Repeats of Mussel Foot Protein Display Enhanced Underwater Adhesion. ACS Applied Materials & Interfaces, 2018, 10, 43003-43012.	4.0	35
34	Covalently-assembled single-chain protein nanostructures with ultra-high stability. Nature Communications, 2019, 10, 3317.	5.8	34
35	Microbially Synthesized Polymeric Amyloid Fiber Promotes Î²-Nanocrystal Formation and Displays Gigapascal Tensile Strength. ACS Nano, 2021, 15, 11843-11853.	7.3	34
36	Synthesis and Characterization of a Long, Rigid Photoswitchable Crossâ€Linker for Promoting Peptide and Protein Conformational Change. ChemBioChem, 2008, 9, 2147-2154.	1.3	33

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37	Enhancing fatty acid production in <i>Escherichia coli</i> by <i>Vitreoscilla</i> hemoglobin overexpression. Biotechnology and Bioengineering, 2017, 114, 463-467.	1.7	32
38	Modular pathway engineering for the microbial production of branched-chain fatty alcohols. Biotechnology for Biofuels, 2017, 10, 244.	6.2	29
39	Biosynthesis, regulation, and engineering of microbially produced branched biofuels. Biotechnology for Biofuels, 2019, 12, 84.	6.2	29
40	Steps towards â€˜drop-inâ€™ biofuels: focusing on metabolic pathways. Current Opinion in Biotechnology, 2018, 53, 26-32.	3.3	26
41	Developing a Cas9â€based tool to engineer native plasmids in <i>Synechocystis</i> sp. PCC 6803. Biotechnology and Bioengineering, 2018, 115, 2305-2314.	1.7	25
42	Fibril Self-Assembly of Amyloidâ€“Spider Silk Block Polypeptides. Biomacromolecules, 2019, 20, 2015-2023.	2.6	24
43	A Biosynthetic Hybrid Spidroin-Amyloid-Mussel Foot Protein for Underwater Adhesion on Diverse Surfaces. ACS Applied Materials & Interfaces, 2021, 13, 48457-48468.	4.0	24
44	Microbial production of megadalton titin yields fibers with advantageous mechanical properties. Nature Communications, 2021, 12, 5182.	5.8	21
45	Amyloids as Building Blocks for Macroscopic Functional Materials: Designs, Applications and Challenges. International Journal of Molecular Sciences, 2021, 22, 10698.	1.8	21
46	Evidence of Kinetic Control of Ligand Binding and Staged Product Release in MurA (Enolpyruvyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 3	1.2	19
47	Bridging the gap between systems biology and synthetic biology. Frontiers in Microbiology, 2013, 4, 211.	1.5	19
48	Bacterial metabolic heterogeneity: origins and applications in engineering and infectious disease. Current Opinion in Biotechnology, 2020, 64, 183-189.	3.3	19
49	Enhanced production of branchedâ€chain fatty acids by replacing Î²â€ketoacylâ€(acylâ€carrierâ€protein) synthase III (FabH). Biotechnology and Bioengineering, 2015, 112, 1613-1622.	1.7	18
50	Developing a Genetically Encoded, Cross-Species Biosensor for Detecting Ammonium and Regulating Biosynthesis of Cyanophycin. ACS Synthetic Biology, 2017, 6, 1807-1815.	1.9	18
51	Seeded Chain-Growth Polymerization of Proteins in Living Bacterial Cells. ACS Synthetic Biology, 2019, 8, 2651-2658.	1.9	18
52	Engineering xylose metabolism for production of polyhydroxybutyrate in the non-model bacterium Burkholderia sacchari. Microbial Cell Factories, 2018, 17, 74.	1.9	17
53	Control strategies to manage trade-offs during microbial production. Current Opinion in Biotechnology, 2020, 66, 158-164.	3.3	15
54	Phosphate Analogues as Probes of the Catalytic Mechanisms of MurA and AroA, Two Carboxyvinyl Transferasesâ€. Biochemistry, 2006, 45, 6027-6037.	1.2	13

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55	Metabolite Sequestration Enables Rapid Recovery from Fatty Acid Depletion in Escherichia coli. MBio, 2020, 11, .	1.8	13
56	Massively parallel gene expression variation measurement of a synonymous codon library. BMC Genomics, 2021, 22, 149.	1.2	13
57	Heterogeneity coordinates bacterial multi-gene expression in single cells. PLoS Computational Biology, 2020, 16, e1007643.	1.5	13
58	Trade-Offs in Biosensor Optimization for Dynamic Pathway Engineering. ACS Synthetic Biology, 2022, 11, 228-240.	1.9	13
59	sGAL: a computational method for finding surface exposed sites in proteins suitable for Cys-mediated cross-linking. Bioinformatics, 2006, 22, 3101-3102.	1.8	11
60	The Growth Dependent Design Constraints of Transcription-Factor-Based Metabolite Biosensors. ACS Synthetic Biology, 2022, 11, 2247-2258.	1.9	11
61	Enhanced microalgae cultivation using wastewater nutrients extracted by a microbial electrochemical system. Water Research, 2021, 206, 117722.	5.3	8
62	Graphene oxide/mussel foot protein composites for high-strength and ultra-tough thin films. Scientific Reports, 2020, 10, 19082.	1.6	5
63	Light-Controlled Gene Switches in Mammalian Cells. Methods in Molecular Biology, 2012, 813, 195-210.	0.4	4
64	Transient Antibiotic Tolerance Triggered by Nutrient Shifts From Gluconeogenic Carbon Sources to Fatty Acid. Frontiers in Microbiology, 2022, 13, 854272.	1.5	2
65	Special Issue on Circuits in Metabolic Engineering. ACS Synthetic Biology, 2015, 4, 93-94.	1.9	1
66	Heterogeneity coordinates bacterial multi-gene expression in single cells. , 2020, 16, e1007643.		0
67	Heterogeneity coordinates bacterial multi-gene expression in single cells. , 2020, 16, e1007643.		0
68	Heterogeneity coordinates bacterial multi-gene expression in single cells. , 2020, 16, e1007643.		0
69	Heterogeneity coordinates bacterial multi-gene expression in single cells. , 2020, 16, e1007643.		0