

Jay D Keasling

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522
papers

43,013
citations

104
h-index

189
g-index

555
ext. papers

49,179
ext. citations

9.1
avg, IF

7.82
L-index

#	Paper	IF	Citations
522	Production of the antimalarial drug precursor artemisinic acid in engineered yeast. <i>Nature</i> , 2006 , 440, 940-3	50.4	2071
521	Engineering a mevalonate pathway in Escherichia coli for production of terpenoids. <i>Nature Biotechnology</i> , 2003 , 21, 796-802	44.5	1293
520	High-level semi-synthetic production of the potent antimalarial artemisinin. <i>Nature</i> , 2013 , 496, 528-32	50.4	1292
519	Microbial production of fatty-acid-derived fuels and chemicals from plant biomass. <i>Nature</i> , 2010 , 463, 559-62	50.4	1060
518	Synthetic protein scaffolds provide modular control over metabolic flux. <i>Nature Biotechnology</i> , 2009 , 27, 753-9	44.5	920
517	Microbial engineering for the production of advanced biofuels. <i>Nature</i> , 2012 , 488, 320-8	50.4	824
516	Engineering Cellular Metabolism. <i>Cell</i> , 2016 , 164, 1185-1197	56.2	655
515	Manufacturing molecules through metabolic engineering. <i>Science</i> , 2010 , 330, 1355-8	33.3	620
514	Design of a dynamic sensor-regulator system for production of chemicals and fuels derived from fatty acids. <i>Nature Biotechnology</i> , 2012 , 30, 354-9	44.5	619
513	Production of amorphaadiene in yeast, and its conversion to dihydroartemisinic acid, precursor to the antimalarial agent artemisinin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, E1111-8	11.5	503
512	Precise and reliable gene expression via standard transcription and translation initiation elements. <i>Nature Methods</i> , 2013 , 10, 354-60	21.6	485
511	Metabolic engineering of microorganisms for biofuels production: from bugs to synthetic biology to fuels. <i>Current Opinion in Biotechnology</i> , 2008 , 19, 556-63	11.4	478
510	Semi-synthetic artemisinin: a model for the use of synthetic biology in pharmaceutical development. <i>Nature Reviews Microbiology</i> , 2014 , 12, 355-67	22.2	441
509	Combinatorial engineering of intergenic regions in operons tunes expression of multiple genes. <i>Nature Biotechnology</i> , 2006 , 24, 1027-32	44.5	434
508	Identification and microbial production of a terpene-based advanced biofuel. <i>Nature Communications</i> , 2011 , 2, 483	17.4	433
507	Engineering microbial biofuel tolerance and export using efflux pumps. <i>Molecular Systems Biology</i> , 2011 , 7, 487	12.2	391
506	Metabolic engineering of <i>Saccharomyces cerevisiae</i> for the production of n-butanol. <i>Microbial Cell Factories</i> , 2008 , 7, 36	6.4	377

505	Balancing a heterologous mevalonate pathway for improved isoprenoid production in <i>Escherichia coli</i> . <i>Metabolic Engineering</i> , 2007 , 9, 193-207	9.7	349
504	Designed divergent evolution of enzyme function. <i>Nature</i> , 2006 , 440, 1078-82	50.4	345
503	Biosynthesis of plant isoprenoids: perspectives for microbial engineering. <i>Annual Review of Plant Biology</i> , 2009 , 60, 335-55	30.7	343
502	Engineering dynamic pathway regulation using stress-response promoters. <i>Nature Biotechnology</i> , 2013 , 31, 1039-46	44.5	338
501	Synthetic biology for synthetic chemistry. <i>ACS Chemical Biology</i> , 2008 , 3, 64-76	4.9	334
500	Synthetic biology and the development of tools for metabolic engineering. <i>Metabolic Engineering</i> , 2012 , 14, 189-95	9.7	316
499	Production of isoprenoid pharmaceuticals by engineered microbes. <i>Nature Chemical Biology</i> , 2006 , 2, 674-81	11.7	312
498	Engineering <i>Escherichia coli</i> for production of functionalized terpenoids using plant P450s. <i>Nature Chemical Biology</i> , 2007 , 3, 274-7	11.7	310
497	Synthesis of three advanced biofuels from ionic liquid-pretreated switchgrass using engineered <i>Escherichia coli</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 19949-54	11.5	304
496	BglBrick vectors and datasheets: A synthetic biology platform for gene expression. <i>Journal of Biological Engineering</i> , 2011 , 5, 12	6.3	302
495	Biofuel alternatives to ethanol: pumping the microbial well. <i>Trends in Biotechnology</i> , 2008 , 26, 375-81	15.1	301
494	Multiplex metabolic pathway engineering using CRISPR/Cas9 in <i>Saccharomyces cerevisiae</i> . <i>Metabolic Engineering</i> , 2015 , 28, 213-222	9.7	292
493	Metabolic engineering of <i>Saccharomyces cerevisiae</i> for production of fatty acid-derived biofuels and chemicals. <i>Metabolic Engineering</i> , 2014 , 21, 103-13	9.7	286
492	High-level production of amorpha-4,11-diene, a precursor of the antimalarial agent artemisinin, in <i>Escherichia coli</i> . <i>PLoS ONE</i> , 2009 , 4, e4489	3.7	286
491	Retrograde signaling by the plastidial metabolite MEcPP regulates expression of nuclear stress-response genes. <i>Cell</i> , 2012 , 149, 1525-35	56.2	284
490	Advanced biofuel production in microbes. <i>Biotechnology Journal</i> , 2010 , 5, 147-62	5.6	282
489	Metabolic engineering of <i>Escherichia coli</i> for limonene and perillyl alcohol production. <i>Metabolic Engineering</i> , 2013 , 19, 33-41	9.7	281
488	Metabolic engineering of microbial pathways for advanced biofuels production. <i>Current Opinion in Biotechnology</i> , 2011 , 22, 775-83	11.4	281

487	BglBricks: A flexible standard for biological part assembly. <i>Journal of Biological Engineering</i> , 2010 , 4, 1	6.3	281
486	Complete biosynthesis of cannabinoids and their unnatural analogues in yeast. <i>Nature</i> , 2019 , 567, 123-126	6.4	273
485	High-throughput metabolic engineering: advances in small-molecule screening and selection. <i>Annual Review of Biochemistry</i> , 2010 , 79, 563-90	29.1	258
484	Engineering of the pyruvate dehydrogenase bypass in <i>Saccharomyces cerevisiae</i> for high-level production of isoprenoids. <i>Metabolic Engineering</i> , 2007 , 9, 160-8	9.7	255
483	Metabolic engineering of the nonmevalonate isopentenyl diphosphate synthesis pathway in <i>Escherichia coli</i> enhances lycopene production. <i>Biotechnology and Bioengineering</i> , 2001 , 72, 408-15	4.9	255
482	Stoichiometric model of <i>Escherichia coli</i> metabolism: incorporation of growth-rate dependent biomass composition and mechanistic energy requirements. <i>Biotechnology and Bioengineering</i> , 1997 , 56, 398-421	4.9	247
481	Homogeneous expression of the P(BAD) promoter in <i>Escherichia coli</i> by constitutive expression of the low-affinity high-capacity AraE transporter. <i>Microbiology (United Kingdom)</i> , 2001 , 147, 3241-7	2.9	234
480	j5 DNA assembly design automation software. <i>ACS Synthetic Biology</i> , 2012 , 1, 14-21	5.7	228
479	Optimization of the mevalonate-based isoprenoid biosynthetic pathway in <i>Escherichia coli</i> for production of the anti-malarial drug precursor amorpha-4,11-diene. <i>Metabolic Engineering</i> , 2009 , 11, 13-9	9.7	227
478	Low-copy plasmids can perform as well as or better than high-copy plasmids for metabolic engineering of bacteria. <i>Metabolic Engineering</i> , 2000 , 2, 328-38	9.7	213
477	Modular engineering of L-tyrosine production in <i>Escherichia coli</i> . <i>Applied and Environmental Microbiology</i> , 2012 , 78, 89-98	4.8	211
476	High-level production of amorpha-4,11-diene in a two-phase partitioning bioreactor of metabolically engineered <i>Escherichia coli</i> . <i>Biotechnology and Bioengineering</i> , 2006 , 95, 684-91	4.9	209
475	Developing <i>Aspergillus</i> as a host for heterologous expression. <i>Biotechnology Advances</i> , 2009 , 27, 53-75	17.8	208
474	Biosynthesis and engineering of isoprenoid small molecules. <i>Applied Microbiology and Biotechnology</i> , 2007 , 73, 980-90	5.7	206
473	Computational protein design enables a novel one-carbon assimilation pathway. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 3704-9	11.5	199
472	Functional genomic study of exogenous n-butanol stress in <i>Escherichia coli</i> . <i>Applied and Environmental Microbiology</i> , 2010 , 76, 1935-45	4.8	188
471	Integrating biological redesign: where synthetic biology came from and where it needs to go. <i>Cell</i> , 2014 , 157, 151-61	56.2	178
470	Engineering static and dynamic control of synthetic pathways. <i>Cell</i> , 2010 , 140, 19-23	56.2	178

469	Microbial synthesis of pinene. <i>ACS Synthetic Biology</i> , 2014 , 3, 466-75	5.7	175
468	Process design for microbial plastic factories: metabolic engineering of polyhydroxyalkanoates. <i>Current Opinion in Biotechnology</i> , 2003 , 14, 475-83	11.4	174
467	A novel semi-biosynthetic route for artemisinin production using engineered substrate-promiscuous P450(BM3). <i>ACS Chemical Biology</i> , 2009 , 4, 261-7	4.9	167
466	Combinatorial expression of bacterial whole mevalonate pathway for the production of beta-carotene in <i>E. coli</i> . <i>Journal of Biotechnology</i> , 2009 , 140, 218-26	3.7	159
465	Synthetic and systems biology for microbial production of commodity chemicals. <i>Npj Systems Biology and Applications</i> , 2016 , 2, 16009	5	157
464	Lutein accumulation in the absence of zeaxanthin restores nonphotochemical quenching in the <i>Arabidopsis thaliana</i> npq1 mutant. <i>Plant Cell</i> , 2009 , 21, 1798-812	11.6	156
463	CRISPR/Cas9 advances engineering of microbial cell factories. <i>Metabolic Engineering</i> , 2016 , 34, 44-59	9.7	152
462	Model-driven engineering of RNA devices to quantitatively program gene expression. <i>Science</i> , 2011 , 334, 1716-9	33.3	152
461	Targeted proteomics for metabolic pathway optimization: application to terpene production. <i>Metabolic Engineering</i> , 2011 , 13, 194-203	9.7	151
460	Quantitative estimation of activity and quality for collections of functional genetic elements. <i>Nature Methods</i> , 2013 , 10, 347-53	21.6	150
459	Biosensors and their applications in microbial metabolic engineering. <i>Trends in Microbiology</i> , 2011 , 19, 323-9	12.4	147
458	Metabolic engineering for drug discovery and development. <i>Nature Reviews Drug Discovery</i> , 2003 , 2, 1019-25	64.1	147
457	Genomic encyclopedia of bacteria and archaea: sequencing a myriad of type strains. <i>PLoS Biology</i> , 2014 , 12, e1001920	9.7	146
456	Identification of isopentenol biosynthetic genes from <i>Bacillus subtilis</i> by a screening method based on isoprenoid precursor toxicity. <i>Applied and Environmental Microbiology</i> , 2007 , 73, 6277-83	4.8	146
455	Transcription factor-based screens and synthetic selections for microbial small-molecule biosynthesis. <i>ACS Synthetic Biology</i> , 2013 , 2, 47-58	5.7	145
454	Application of functional genomics to pathway optimization for increased isoprenoid production. <i>Applied and Environmental Microbiology</i> , 2008 , 74, 3229-41	4.8	143
453	Induction of multiple pleiotropic drug resistance genes in yeast engineered to produce an increased level of anti-malarial drug precursor, artemisinic acid. <i>BMC Biotechnology</i> , 2008 , 8, 83	3.5	143
452	Engineering prokaryotic transcriptional activators as metabolite biosensors in yeast. <i>Nature Chemical Biology</i> , 2016 , 12, 951-958	11.7	141

451	Design, implementation and practice of JBEI-ICE: an open source biological part registry platform and tools. <i>Nucleic Acids Research</i> , 2012 , 40, e141	20.1	141
450	Charge-associated effects of fullerene derivatives on microbial structural integrity and central metabolism. <i>Nano Letters</i> , 2007 , 7, 754-60	11.5	141
449	XAX1 from glycosyltransferase family 61 mediates xylosyltransfer to rice xylan. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 17117-22	11.5	140
448	Regulatable arabinose-inducible gene expression system with consistent control in all cells of a culture. <i>Journal of Bacteriology</i> , 2000 , 182, 7029-34	3.5	140
447	Mathematical model of the lac operon: inducer exclusion, catabolite repression, and diauxic growth on glucose and lactose. <i>Biotechnology Progress</i> , 1997 , 13, 132-43	2.8	136
446	Salt stress in <i>Desulfovibrio vulgaris</i> Hildenborough: an integrated genomics approach. <i>Journal of Bacteriology</i> , 2006 , 188, 4068-78	3.5	134
445	Enhancing fatty acid production by the expression of the regulatory transcription factor FadR. <i>Metabolic Engineering</i> , 2012 , 14, 653-60	9.7	132
444	Carotenoid-based phenotypic screen of the yeast deletion collection reveals new genes with roles in isoprenoid production. <i>Metabolic Engineering</i> , 2013 , 15, 174-83	9.7	131
443	Programming adaptive control to evolve increased metabolite production. <i>Nature Communications</i> , 2013 , 4, 2595	17.4	130
442	Enhanced lycopene production in <i>Escherichia coli</i> engineered to synthesize isopentenyl diphosphate and dimethylallyl diphosphate from mevalonate. <i>Biotechnology and Bioengineering</i> , 2006 , 94, 1025-32	4.9	129
441	Mono and diterpene production in <i>Escherichia coli</i> . <i>Biotechnology and Bioengineering</i> , 2004 , 87, 200-12	4.9	129
440	Engineering synergy in biotechnology. <i>Nature Chemical Biology</i> , 2014 , 10, 319-22	11.7	126
439	Genes involved in long-chain alkene biosynthesis in <i>Micrococcus luteus</i> . <i>Applied and Environmental Microbiology</i> , 2010 , 76, 1212-23	4.8	126
438	Optimization of a heterologous mevalonate pathway through the use of variant HMG-CoA reductases. <i>Metabolic Engineering</i> , 2011 , 13, 588-97	9.7	124
437	Development of biosensors and their application in metabolic engineering. <i>Current Opinion in Chemical Biology</i> , 2015 , 28, 1-8	9.7	122
436	Impact of ionic liquid pretreated plant biomass on <i>Saccharomyces cerevisiae</i> growth and biofuel production. <i>Green Chemistry</i> , 2011 , 13, 2743	10	120
435	Biosynthesis and incorporation of side-chain-truncated lignin monomers to reduce lignin polymerization and enhance saccharification. <i>Plant Biotechnology Journal</i> , 2012 , 10, 609-20	11.6	119
434	Redirection of flux through the FPP branch-point in <i>Saccharomyces cerevisiae</i> by down-regulating squalene synthase. <i>Biotechnology and Bioengineering</i> , 2008 , 100, 371-8	4.9	119

433	Principal component analysis of proteomics (PCAP) as a tool to direct metabolic engineering. <i>Metabolic Engineering</i> , 2015 , 28, 123-133	9.7	118
432	The effect of ionic liquid cation and anion combinations on the macromolecular structure of lignins. <i>Green Chemistry</i> , 2011 , 13, 3375	10	118
431	Advances in analysis of microbial metabolic fluxes via (13)C isotopic labeling. <i>Mass Spectrometry Reviews</i> , 2009 , 28, 362-75	11	115
430	Synergies between synthetic biology and metabolic engineering. <i>Nature Biotechnology</i> , 2011 , 29, 693-5	44.5	114
429	Engineering of bacterial methyl ketone synthesis for biofuels. <i>Applied and Environmental Microbiology</i> , 2012 , 78, 70-80	4.8	113
428	EasyClone-MarkerFree: A vector toolkit for marker-less integration of genes into <i>Saccharomyces cerevisiae</i> via CRISPR-Cas9. <i>Biotechnology Journal</i> , 2016 , 11, 1110-7	5.6	111
427	Metabolic engineering for the high-yield production of isoprenoid-based alcohols in <i>E. coli</i> . <i>Scientific Reports</i> , 2015 , 5, 11128	4.9	109
426	Overexpression of a BAHD acyltransferase, OsAt10, alters rice cell wall hydroxycinnamic acid content and saccharification. <i>Plant Physiology</i> , 2013 , 161, 1615-33	6.6	109
425	Design and construction of a double inversion recombination switch for heritable sequential genetic memory. <i>PLoS ONE</i> , 2008 , 3, e2815	3.7	109
424	Importance of systems biology in engineering microbes for biofuel production. <i>Current Opinion in Biotechnology</i> , 2008 , 19, 228-34	11.4	109
423	CasEMBLR: Cas9-Facilitated Multiloci Genomic Integration of in Vivo Assembled DNA Parts in <i>Saccharomyces cerevisiae</i> . <i>ACS Synthetic Biology</i> , 2015 , 4, 1226-34	5.7	108
422	A Cas9-based toolkit to program gene expression in <i>Saccharomyces cerevisiae</i> . <i>Nucleic Acids Research</i> , 2017 , 45, 496-508	20.1	106
421	Remodeling the isoprenoid pathway in tobacco by expressing the cytoplasmic mevalonate pathway in chloroplasts. <i>Metabolic Engineering</i> , 2012 , 14, 19-28	9.7	106
420	CrEdit: CRISPR mediated multi-loci gene integration in <i>Saccharomyces cerevisiae</i> . <i>Microbial Cell Factories</i> , 2015 , 14, 97	6.4	105
419	A model for improving microbial biofuel production using a synthetic feedback loop. <i>Systems and Synthetic Biology</i> , 2010 , 4, 95-104		104
418	Polyphosphate kinase from activated sludge performing enhanced biological phosphorus removal. <i>Applied and Environmental Microbiology</i> , 2002 , 68, 4971-8	4.8	100
417	Industrial brewing yeast engineered for the production of primary flavor determinants in hopped beer. <i>Nature Communications</i> , 2018 , 9, 965	17.4	99
416	Uranyl precipitation by <i>Pseudomonas aeruginosa</i> via controlled polyphosphate metabolism. <i>Applied and Environmental Microbiology</i> , 2004 , 70, 7404-12	4.8	97

415	Three members of the Arabidopsis glycosyltransferase family 8 are xylan glucuronosyltransferases. <i>Plant Physiology</i> , 2012 , 159, 1408-17	6.6	95
414	De novo DNA synthesis using polymerase-nucleotide conjugates. <i>Nature Biotechnology</i> , 2018 , 36, 645-654	14.5	94
413	Metabolic flux elucidation for large-scale models using 13C labeled isotopes. <i>Metabolic Engineering</i> , 2007 , 9, 387-405	9.7	94
412	Engineering triterpene production in <i>Saccharomyces cerevisiae</i> -beta-amyrin synthase from <i>Artemisia annua</i> . <i>FEBS Journal</i> , 2008 , 275, 1852-9	5.7	94
411	a new platform organism for conversion of lignocellulose into terpene biofuels and bioproducts. <i>Biotechnology for Biofuels</i> , 2017 , 10, 241	7.8	93
410	Building a global alliance of biofoundries. <i>Nature Communications</i> , 2019 , 10, 2040	17.4	91
409	Improving microbial biogasoline production in <i>Escherichia coli</i> using tolerance engineering. <i>MBio</i> , 2014 , 5, e01932	7.8	91
408	Rapid metabolic pathway assembly and modification using serine integrase site-specific recombination. <i>Nucleic Acids Research</i> , 2014 , 42, e23	20.1	90
407	Farnesol production from <i>Escherichia coli</i> by harnessing the exogenous mevalonate pathway. <i>Biotechnology and Bioengineering</i> , 2010 , 107, 421-9	4.9	90
406	Microbioreactor arrays with parametric control for high-throughput experimentation. <i>Biotechnology and Bioengineering</i> , 2004 , 85, 376-81	4.9	90
405	Gene-expression tools for the metabolic engineering of bacteria. <i>Trends in Biotechnology</i> , 1999 , 17, 452-60	6.1	90
404	Cell-wide responses to low-oxygen exposure in <i>Desulfovibrio vulgaris</i> Hildenborough. <i>Journal of Bacteriology</i> , 2007 , 189, 5996-6010	3.5	88
403	Base-Catalyzed Depolymerization of Solid Lignin-Rich Streams Enables Microbial Conversion. <i>ACS Sustainable Chemistry and Engineering</i> , 2017 , 5, 8171-8180	8.3	87
402	The in vivo synthesis of plant sesquiterpenes by <i>Escherichia coli</i> . <i>Biotechnology and Bioengineering</i> , 2001 , 75, 497-503	4.9	87
401	A thermophilic ionic liquid-tolerant cellulase cocktail for the production of cellulosic biofuels. <i>PLoS ONE</i> , 2012 , 7, e37010	3.7	87
400	Identification of the intermediates of in vivo oxidation of 1,4-dioxane by monooxygenase-containing bacteria. <i>Environmental Science & Technology</i> , 2007 , 41, 7330-6	10.3	86
399	Directed evolution of AraC for improved compatibility of arabinose- and lactose-inducible promoters. <i>Applied and Environmental Microbiology</i> , 2007 , 73, 5711-5	4.8	86
398	Microbially Derived Artemisinin: A Biotechnology Solution to the Global Problem of Access to Affordable Antimalarial Drugs. <i>American Journal of Tropical Medicine and Hygiene</i> , 2007 , 77, 198-202	3.2	86

397	Cloning of casbene and neocembrene synthases from Euphorbiaceae plants and expression in <i>Saccharomyces cerevisiae</i> . <i>Phytochemistry</i> , 2010 , 71, 1466-73	4	85
396	Membrane proteomics of phagosomes suggests a connection to autophagy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 16952-7	11.5	85
395	Isoprenoid drugs, biofuels, and chemicals--artemisinin, farnesene, and beyond. <i>Advances in Biochemical Engineering/Biotechnology</i> , 2015 , 148, 355-89	1.7	84
394	Engineering the lycopene synthetic pathway in <i>E. coli</i> by comparison of the carotenoid genes of <i>Pantoea agglomerans</i> and <i>Pantoea ananatis</i> . <i>Applied Microbiology and Biotechnology</i> , 2007 , 74, 131-9	5.7	84
393	Metabolic engineering of a novel propionate-independent pathway for the production of poly(3-hydroxybutyrate-co-3-hydroxyvalerate) in recombinant <i>Salmonella enterica</i> serovar typhimurium. <i>Applied and Environmental Microbiology</i> , 2002 , 68, 3848-54	4.8	84
392	Metabolic pathway optimization using ribosome binding site variants and combinatorial gene assembly. <i>Applied Microbiology and Biotechnology</i> , 2014 , 98, 1567-81	5.7	83
391	Effect of <i>Escherichia coli</i> biomass composition on central metabolic fluxes predicted by a stoichiometric model. <i>Biotechnology and Bioengineering</i> , 1998 , 60, 230-8	4.9	83
390	Chemical synthesis using synthetic biology. <i>Current Opinion in Biotechnology</i> , 2009 , 20, 498-503	11.4	82
389	Separation and mass spectrometry in microbial metabolomics. <i>Current Opinion in Microbiology</i> , 2008 , 11, 233-9	7.9	82
388	Viscous control of cellular respiration by membrane lipid composition. <i>Science</i> , 2018 , 362, 1186-1189	33.3	82
387	Pathway confirmation and flux analysis of central metabolic pathways in <i>Desulfovibrio vulgaris</i> hildenborough using gas chromatography-mass spectrometry and Fourier transform-ion cyclotron resonance mass spectrometry. <i>Journal of Bacteriology</i> , 2007 , 189, 940-9	3.5	81
386	Metabolic engineering of microorganisms for isoprenoid production. <i>Natural Product Reports</i> , 2008 , 25, 656-61	15.1	79
385	Identification of genes affecting lycopene accumulation in <i>Escherichia coli</i> using a shot-gun method. <i>Biotechnology and Bioengineering</i> , 2005 , 91, 636-42	4.9	79
384	Evolved hexose transporter enhances xylose uptake and glucose/xylose co-utilization in <i>Saccharomyces cerevisiae</i> . <i>Scientific Reports</i> , 2016 , 6, 19512	4.9	78
383	Correction: Global analysis of host response to induction of a latent bacteriophage. <i>BMC Microbiology</i> , 2013 , 13, 183	4.5	78
382	<i>Shewanella oneidensis</i> MR-1 fluxome under various oxygen conditions. <i>Applied and Environmental Microbiology</i> , 2007 , 73, 718-29	4.8	78
381	Correction for Thompson et al., Fatty Acid and Alcohol Metabolism in <i>Pseudomonas putida</i> : Functional Analysis Using Random Barcode Transposon Sequencing. <i>Applied and Environmental Microbiology</i> , 2021 , 87,	4.8	78
380	Regulation of intracellular toxic metals and other cations by hydrolysis of polyphosphate. <i>Annals of the New York Academy of Sciences</i> , 1997 , 829, 242-9	6.5	77

379	Memory in microbes: quantifying history-dependent behavior in a bacterium. <i>PLoS ONE</i> , 2008 , 3, e1700	3.7	77
378	Engineering of synthetic, stress-responsive yeast promoters. <i>Nucleic Acids Research</i> , 2016 , 44, e136	20.1	76
377	An auto-inducible mechanism for ionic liquid resistance in microbial biofuel production. <i>Nature Communications</i> , 2014 , 5, 3490	17.4	76
376	Library of synthetic 5' secondary structures to manipulate mRNA stability in Escherichia coli. <i>Biotechnology Progress</i> , 1999 , 15, 58-64	2.8	76
375	Transcriptional reprogramming in yeast using dCas9 and combinatorial gRNA strategies. <i>Microbial Cell Factories</i> , 2017 , 16, 46	6.4	75
374	Correlation analysis of targeted proteins and metabolites to assess and engineer microbial isopentenol production. <i>Biotechnology and Bioengineering</i> , 2014 , 111, 1648-58	4.9	75
373	Nickel accumulation and nickel oxalate precipitation by <i>Aspergillus niger</i> . <i>Applied Microbiology and Biotechnology</i> , 2002 , 59, 382-8	5.7	75
372	Commensal interactions in a dual-species biofilm exposed to mixed organic compounds. <i>Applied and Environmental Microbiology</i> , 2000 , 66, 4481-5	4.8	75
371	Anaerobic central metabolic pathways in <i>Shewanella oneidensis</i> MR-1 reinterpreted in the light of isotopic metabolite labeling. <i>Journal of Bacteriology</i> , 2007 , 189, 894-901	3.5	74
370	A kinetic model describing <i>Shewanella oneidensis</i> MR-1 growth, substrate consumption, and product secretion. <i>Biotechnology and Bioengineering</i> , 2007 , 96, 125-33	4.9	73
369	Microbial sensors for small molecules: development of a mevalonate biosensor. <i>Metabolic Engineering</i> , 2007 , 9, 30-8	9.7	73
368	Engineering cotton (+)-delta-cadinene synthase to an altered function: germacrene D-4-ol synthase. <i>Chemistry and Biology</i> , 2006 , 13, 91-8		72
367	Isopentenyl diphosphate (IPP)-bypass mevalonate pathways for isopentenol production. <i>Metabolic Engineering</i> , 2016 , 34, 25-35	9.7	71
366	Comprehensive in Vitro Analysis of Acyltransferase Domain Exchanges in Modular Polyketide Synthases and Its Application for Short-Chain Ketone Production. <i>ACS Synthetic Biology</i> , 2017 , 6, 139-147	5.7	71
365	From fields to fuels: recent advances in the microbial production of biofuels. <i>ACS Synthetic Biology</i> , 2012 , 1, 498-513	5.7	71
364	Selecting RNA aptamers for synthetic biology: investigating magnesium dependence and predicting binding affinity. <i>Nucleic Acids Research</i> , 2010 , 38, 2736-47	20.1	70
363	Increased beta-carotene production in recombinant <i>Escherichia coli</i> harboring an engineered isoprenoid precursor pathway with mevalonate addition. <i>Biotechnology Progress</i> , 2007 , 23, 599-605	2.8	69
362	Coenzyme Q10 production in recombinant <i>Escherichia coli</i> strains engineered with a heterologous decaprenyl diphosphate synthase gene and foreign mevalonate pathway. <i>Metabolic Engineering</i> , 2006 , 8, 406-16	9.7	69

361	Structure of a three-domain sesquiterpene synthase: a prospective target for advanced biofuels production. <i>Structure</i> , 2011 , 19, 1876-84	5.2	68
360	A propionate-inducible expression system for enteric bacteria. <i>Applied and Environmental Microbiology</i> , 2005 , 71, 6856-62	4.8	68
359	Engineering high-level production of fatty alcohols by <i>Saccharomyces cerevisiae</i> from lignocellulosic feedstocks. <i>Metabolic Engineering</i> , 2017 , 42, 115-125	9.7	67
358	Controlling messenger RNA stability in bacteria: strategies for engineering gene expression. <i>Biotechnology Progress</i> , 1997 , 13, 699-708	2.8	67
357	Metabolic engineering of an aerobic sulfate reduction pathway and its application to precipitation of cadmium on the cell surface. <i>Applied and Environmental Microbiology</i> , 2000 , 66, 4497-502	4.8	67
356	HipA-triggered growth arrest and β -lactam tolerance in <i>Escherichia coli</i> are mediated by RelA-dependent ppGpp synthesis. <i>Journal of Bacteriology</i> , 2013 , 195, 3173-82	3.5	66
355	<i>Arabidopsis</i> Deficient in Cutin Ferulate encodes a transferase required for feruloylation of Hydroxy fatty acids in cutin polyester. <i>Plant Physiology</i> , 2012 , 158, 654-65	6.6	66
354	Coordinated, differential expression of two genes through directed mRNA cleavage and stabilization by secondary structures. <i>Applied and Environmental Microbiology</i> , 2000 , 66, 5399-405	4.8	66
353	DeviceEditor visual biological CAD canvas. <i>Journal of Biological Engineering</i> , 2012 , 6, 1	6.3	65
352	Investigation of carbon metabolism in "Dehalococcoides ethenogenes" strain 195 by use of isotopomer and transcriptomic analyses. <i>Journal of Bacteriology</i> , 2009 , 191, 5224-31	3.5	65
351	Engineering terpene biosynthesis in <i>Streptomyces</i> for production of the advanced biofuel precursor bisabolene. <i>ACS Synthetic Biology</i> , 2015 , 4, 393-9	5.7	64
350	Polyphosphate kinase genes from full-scale activated sludge plants. <i>Applied Microbiology and Biotechnology</i> , 2007 , 77, 167-73	5.7	64
349	Plastid-produced interorgannellar stress signal MEcPP potentiates induction of the unfolded protein response in endoplasmic reticulum. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 6212-7	11.5	62
348	Synthetic biology for microbial production of lipid-based biofuels. <i>Current Opinion in Chemical Biology</i> , 2015 , 29, 58-65	9.7	62
347	Integrated analysis of isopentenyl pyrophosphate (IPP) toxicity in isoprenoid-producing <i>Escherichia coli</i> . <i>Metabolic Engineering</i> , 2018 , 47, 60-72	9.7	62
346	Expression of a bacterial 3-dehydroshikimate dehydratase reduces lignin content and improves biomass saccharification efficiency. <i>Plant Biotechnology Journal</i> , 2015 , 13, 1241-50	11.6	62
345	Capillary electrophoresis-fourier transform ion cyclotron resonance mass spectrometry for the identification of cationic metabolites via a pH-mediated stacking-transient isotachophoretic method. <i>Analytical Chemistry</i> , 2008 , 80, 3112-22	7.8	62
344	Biodesulfurization of dibenzothiophene in <i>Escherichia coli</i> is enhanced by expression of a <i>Vibrio harveyi</i> oxidoreductase gene. <i>Biotechnology and Bioengineering</i> , 2000 , 67, 72-79	4.9	62

343	A tightly regulated inducible expression system utilizing the fim inversion recombination switch. <i>Biotechnology and Bioengineering</i> , 2006 , 94, 1-4	4.9	59
342	Characterizing Strain Variation in Engineered E. coli Using a Multi-Omics-Based Workflow. <i>Cell Systems</i> , 2016 , 2, 335-46	10.6	59
341	Examining glycolytic pathways, catabolite repression, and metabolite channeling using mutants. <i>Biotechnology for Biofuels</i> , 2016 , 9, 212	7.8	58
340	A Versatile Microfluidic Device for Automating Synthetic Biology. <i>ACS Synthetic Biology</i> , 2015 , 4, 1151-64	5.7	57
339	Synthetic pathway for production of five-carbon alcohols from isopentenyl diphosphate. <i>Applied and Environmental Microbiology</i> , 2012 , 78, 7849-55	4.8	57
338	Photosynthetic conversion of CO ₂ to farnesyl diphosphate-derived phytochemicals (amorpha-4,11-diene and squalene) by engineered cyanobacteria. <i>Biotechnology for Biofuels</i> , 2016 , 9, 202	7.8	57
337	Production of jet fuel precursor monoterpenoids from engineered Escherichia coli. <i>Biotechnology and Bioengineering</i> , 2017 , 114, 1703-1712	4.9	56
336	Enzyme immobilization via silaffin-mediated autoencapsulation in a biosilica support. <i>Biotechnology Progress</i> , 2009 , 25, 417-23	2.8	56
335	Amplification of HMG-CoA reductase production enhances carotenoid accumulation in Neurospora crassa. <i>Metabolic Engineering</i> , 2002 , 4, 193-201	9.7	56
334	Acute Limonene Toxicity in Escherichia coli Is Caused by Limonene Hydroperoxide and Alleviated by a Point Mutation in Alkyl Hydroperoxidase AhpC. <i>Applied and Environmental Microbiology</i> , 2015 , 81, 4690-6	4.8	55
333	Engineered polyketides: Synergy between protein and host level engineering. <i>Synthetic and Systems Biotechnology</i> , 2017 , 2, 147-166	4.2	55
332	Analysis of metabolic pathways and fluxes in a newly discovered thermophilic and ethanol-tolerant Geobacillus strain. <i>Biotechnology and Bioengineering</i> , 2009 , 102, 1377-86	4.9	55
331	Effect of lacY expression on homogeneity of induction from the P(tac) and P(trc) promoters by natural and synthetic inducers. <i>Biotechnology Progress</i> , 2002 , 18, 672-4	2.8	55
330	Exploiting the Substrate Promiscuity of Hydroxycinnamoyl-CoA:Shikimate Hydroxycinnamoyl Transferase to Reduce Lignin. <i>Plant and Cell Physiology</i> , 2016 , 57, 568-79	4.9	54
329	Engineering of L-tyrosine oxidation in Escherichia coli and microbial production of hydroxytyrosol. <i>Metabolic Engineering</i> , 2012 , 14, 603-10	9.7	54
328	Organelle membrane proteomics reveals differential influence of mycobacterial lipoglycans on macrophage phagosome maturation and autophagosome accumulation. <i>Journal of Proteome Research</i> , 2011 , 10, 339-48	5.6	54
327	Combining mechanistic and machine learning models for predictive engineering and optimization of tryptophan metabolism. <i>Nature Communications</i> , 2020 , 11, 4880	17.4	54
326	Engineering a Polyketide Synthase for In Vitro Production of Adipic Acid. <i>ACS Synthetic Biology</i> , 2016 , 5, 21-7	5.7	52

325	Flux analysis of central metabolic pathways in <i>Geobacter metallireducens</i> during reduction of soluble Fe(III)-nitritotriacetic acid. <i>Applied and Environmental Microbiology</i> , 2007 , 73, 3859-64	4.8	52
324	Autonomous control of metabolic state by a quorum sensing (QS)-mediated regulator for bisabolene production in engineered <i>E. coli</i> . <i>Metabolic Engineering</i> , 2017 , 44, 325-336	9.7	51
323	Development of Next Generation Synthetic Biology Tools for Use in <i>Streptomyces venezuelae</i> . <i>ACS Synthetic Biology</i> , 2017 , 6, 159-166	5.7	51
322	Effect of gene location, mRNA secondary structures, and RNase sites on expression of two genes in an engineered operon. <i>Biotechnology and Bioengineering</i> , 2002 , 80, 762-76	4.9	51
321	A three-dimensional, stochastic simulation of biofilm growth and transport-related factors that affect structure. <i>Microbiology (United Kingdom)</i> , 2003 , 149, 2859-2871	2.9	51
320	Aerobic sulfide production and cadmium precipitation by <i>Escherichia coli</i> expressing the <i>Treponema denticola</i> cysteine desulphydrase gene. <i>Applied Microbiology and Biotechnology</i> , 2001 , 56, 425-30	5.7	51
319	Impact of elevated nitrate on sulfate-reducing bacteria: a comparative study of <i>Desulfovibrio vulgaris</i> . <i>ISME Journal</i> , 2010 , 4, 1386-97	11.9	50
318	Self-Assembly of a Designed Protein Polymer into β -sheet Fibrils and Responsive Gels. <i>Macromolecules</i> , 2003 , 36, 2932-2938	5.5	50
317	Redesigning enzymes based on adaptive evolution for optimal function in synthetic metabolic pathways. <i>Chemistry and Biology</i> , 2008 , 15, 607-18		49
316	Evaluation of the effects of various culture conditions on Cr(VI) reduction by <i>Shewanella oneidensis</i> MR-1 in a novel high-throughput mini-bioreactor. <i>Biotechnology and Bioengineering</i> , 2006 , 95, 176-84	4.9	49
315	Controlling the metabolic flux through the carotenoid pathway using directed mRNA processing and stabilization. <i>Metabolic Engineering</i> , 2001 , 3, 313-21	9.7	49
314	Cyanobacterial carbon metabolism: Fluxome plasticity and oxygen dependence. <i>Biotechnology and Bioengineering</i> , 2017 , 114, 1593-1602	4.9	48
313	Narrowing the gap between the promise and reality of polyketide synthases as a synthetic biology platform. <i>Current Opinion in Biotechnology</i> , 2014 , 30, 32-9	11.4	48
312	Production and quantification of sesquiterpenes in <i>Saccharomyces cerevisiae</i> , including extraction, detection and quantification of terpene products and key related metabolites. <i>Nature Protocols</i> , 2014 , 9, 1980-96	18.8	48
311	Global transcriptional, physiological, and metabolite analyses of the responses of <i>Desulfovibrio vulgaris</i> hildenborough to salt adaptation. <i>Applied and Environmental Microbiology</i> , 2010 , 76, 1574-86	4.8	48
310	Mineralization of paraoxon and its use as a sole C and P source by a rationally designed catabolic pathway in <i>Pseudomonas putida</i> . <i>Applied and Environmental Microbiology</i> , 2006 , 72, 6699-706	4.8	48
309	Study of nitrate stress in <i>Desulfovibrio vulgaris</i> Hildenborough using iTRAQ proteomics. <i>Briefings in Functional Genomics & Proteomics</i> , 2006 , 5, 133-43		48
308	Recent applications of synthetic biology tools for yeast metabolic engineering. <i>FEMS Yeast Research</i> , 2015 , 15, 1-10	3.1	47

307	Quantitative proteomic profiling of host-pathogen interactions: the macrophage response to Mycobacterium tuberculosis lipids. <i>Journal of Proteome Research</i> , 2009 , 8, 282-9	5.6	47
306	Development of an E. coli strain for one-pot biofuel production from ionic liquid pretreated cellulose and switchgrass. <i>Green Chemistry</i> , 2016 , 18, 4189-4197	10	47
305	Engineering an NADPH/NADP Redox Biosensor in Yeast. <i>ACS Synthetic Biology</i> , 2016 , 5, 1546-1556	5.7	46
304	A Droplet Microfluidic Platform for Automating Genetic Engineering. <i>ACS Synthetic Biology</i> , 2016 , 5, 426-33	5.7	46
303	Functional responses of methanogenic archaea to syntrophic growth. <i>ISME Journal</i> , 2012 , 6, 2045-55	11.9	46
302	ClusterCAD: a computational platform for type I modular polyketide synthase design. <i>Nucleic Acids Research</i> , 2018 , 46, D509-D515	20.1	45
301	Production of anteiso-branched fatty acids in Escherichia coli; next generation biofuels with improved cold-flow properties. <i>Metabolic Engineering</i> , 2014 , 26, 111-118	9.7	45
300	Substantial improvements in methyl ketone production in E. coli and insights on the pathway from in vitro studies. <i>Metabolic Engineering</i> , 2014 , 26, 67-76	9.7	45
299	Transcriptomic and proteomic analyses of Desulfovibrio vulgaris biofilms: carbon and energy flow contribute to the distinct biofilm growth state. <i>BMC Genomics</i> , 2012 , 13, 138	4.5	45
298	Metabolic flux analysis of Shewanella spp. reveals evolutionary robustness in central carbon metabolism. <i>Biotechnology and Bioengineering</i> , 2009 , 102, 1161-9	4.9	45
297	Analysis of amino acid isotopomers using FT-ICR MS. <i>Analytical Chemistry</i> , 2007 , 79, 2483-90	7.8	45
296	Catabolite repression of the propionate catabolic genes in Escherichia coli and Salmonella enterica: evidence for involvement of the cyclic AMP receptor protein. <i>Journal of Bacteriology</i> , 2005 , 187, 2793-800	3.5	45
295	Evolution-guided engineering of small-molecule biosensors. <i>Nucleic Acids Research</i> , 2020 , 48, e3	20.1	45
294	Development of a Transcription Factor-Based Lactam Biosensor. <i>ACS Synthetic Biology</i> , 2017 , 6, 439-445	5.7	44
293	A Method to Constrain Genome-Scale Models with ¹³ C Labeling Data. <i>PLoS Computational Biology</i> , 2015 , 11, e1004363	5	44
292	Leveraging microbial biosynthetic pathways for the generation of 'drop-in' biofuels. <i>Current Opinion in Biotechnology</i> , 2017 , 45, 156-163	11.4	43
291	Comprehensive Structural and Biochemical Analysis of the Terminal Myxalamid Reductase Domain for the Engineered Production of Primary Alcohols. <i>Chemistry and Biology</i> , 2015 , 22, 1018-29		43
290	A peptide-based method for ¹³ C Metabolic Flux Analysis in microbial communities. <i>PLoS Computational Biology</i> , 2014 , 10, e1003827	5	43

289	Overlapping photoprotective function of vitamin E and carotenoids in <i>Chlamydomonas</i> . <i>Plant Physiology</i> , 2012 , 158, 313-23	6.6	43
288	Effects of the sequence and size of non-polar residues on self-assembly of amphiphilic peptides. <i>International Journal of Biological Macromolecules</i> , 2005 , 36, 232-40	7.9	43
287	Loss of Inositol Phosphorylceramide Sphingolipid Mannosylation Induces Plant Immune Responses and Reduces Cellulose Content in Arabidopsis. <i>Plant Cell</i> , 2016 , 28, 2991-3004	11.6	43
286	Whole-cell biocatalytic and de novo production of alkanes from free fatty acids in <i>Saccharomyces cerevisiae</i> . <i>Biotechnology and Bioengineering</i> , 2017 , 114, 232-237	4.9	42
285	Enhancing Terpene yield from sugars via novel routes to 1-deoxy-d-xylulose 5-phosphate. <i>Applied and Environmental Microbiology</i> , 2015 , 81, 130-8	4.8	42
284	CasPER, a method for directed evolution in genomic contexts using mutagenesis and CRISPR/Cas9. <i>Metabolic Engineering</i> , 2018 , 48, 288-296	9.7	42
283	Engineering hydrogen sulfide production and cadmium removal by expression of the thiosulfate reductase gene (phsABC) from <i>Salmonella enterica</i> serovar typhimurium in <i>Escherichia coli</i> . <i>Applied and Environmental Microbiology</i> , 2000 , 66, 3939-44	4.8	42
282	Application of an Acyl-CoA Ligase from <i>Streptomyces aizunensis</i> for Lactam Biosynthesis. <i>ACS Synthetic Biology</i> , 2017 , 6, 884-890	5.7	41
281	Alleviation of reactive oxygen species enhances PUFA accumulation in sp. through regulating genes involved in lipid metabolism. <i>Metabolic Engineering Communications</i> , 2018 , 6, 39-48	6.5	41
280	A targeted proteomics toolkit for high-throughput absolute quantification of <i>Escherichia coli</i> proteins. <i>Metabolic Engineering</i> , 2014 , 26, 48-56	9.7	41
279	Manipulation of the carbon storage regulator system for metabolite remodeling and biofuel production in <i>Escherichia coli</i> . <i>Microbial Cell Factories</i> , 2012 , 11, 79	6.4	41
278	PaR-PaR laboratory automation platform. <i>ACS Synthetic Biology</i> , 2013 , 2, 216-22	5.7	41
277	Absence of diauxie during simultaneous utilization of glucose and Xylose by <i>Sulfolobus acidocaldarius</i> . <i>Journal of Bacteriology</i> , 2011 , 193, 1293-301	3.5	41
276	mRNA stability and plasmid copy number effects on gene expression from an inducible promoter system. <i>Biotechnology and Bioengineering</i> , 1998 , 59, 666-72	4.9	41
275	Metabolic engineering of <i>Pseudomonas putida</i> for the utilization of parathion as a carbon and energy source. <i>Biotechnology and Bioengineering</i> , 2002 , 78, 715-21	4.9	41
274	Investigating autocatalytic gene expression systems through mechanistic modeling. <i>Journal of Theoretical Biology</i> , 1999 , 201, 25-36	2.3	41
273	Reductive dechlorination of chlorinated ethene DNAPLs by a culture enriched from contaminated groundwater. <i>Biotechnology and Bioengineering</i> , 1999 , 62, 160-5	4.9	41
272	ATP citrate lyase mediated cytosolic acetyl-CoA biosynthesis increases mevalonate production in <i>Saccharomyces cerevisiae</i> . <i>Microbial Cell Factories</i> , 2016 , 15, 48	6.4	41

271	Intracellular cellobiose metabolism and its applications in lignocellulose-based biorefineries. <i>Bioresource Technology</i> , 2017 , 239, 496-506	11	40
270	Analysis of plant nucleotide sugars by hydrophilic interaction liquid chromatography and tandem mass spectrometry. <i>Analytical Biochemistry</i> , 2014 , 448, 14-22	3.1	40
269	Addressing the need for alternative transportation fuels: the Joint BioEnergy Institute. <i>ACS Chemical Biology</i> , 2008 , 3, 17-20	4.9	40
268	Development of an orthogonal fatty acid biosynthesis system in <i>E. coli</i> for oleochemical production. <i>Metabolic Engineering</i> , 2015 , 30, 1-6	9.7	39
267	An Orthogonal and pH-Tunable Sensor-Selector for Muconic Acid Biosynthesis in Yeast. <i>ACS Synthetic Biology</i> , 2018 , 7, 995-1003	5.7	39
266	Production of hydroxycinnamoyl anthranilates from glucose in <i>Escherichia coli</i> . <i>Microbial Cell Factories</i> , 2013 , 12, 62	6.4	39
265	Characterization of NaCl tolerance in <i>Desulfovibrio vulgaris</i> Hildenborough through experimental evolution. <i>ISME Journal</i> , 2013 , 7, 1790-802	11.9	39
264	Hydrogen peroxide-induced oxidative stress responses in <i>Desulfovibrio vulgaris</i> Hildenborough. <i>Environmental Microbiology</i> , 2010 , 12, 2645-57	5.2	39
263	End-to-end automated microfluidic platform for synthetic biology: from design to functional analysis. <i>Journal of Biological Engineering</i> , 2016 , 10, 3	6.3	38
262	Acid enhanced ionic liquid pretreatment of biomass. <i>Green Chemistry</i> , 2013 , 15, 1264	10	38
261	Production of tranilast [N-(3',4'-dimethoxycinnamoyl)-anthranilic acid] and its analogs in yeast <i>Saccharomyces cerevisiae</i> . <i>Applied Microbiology and Biotechnology</i> , 2011 , 89, 989-1000	5.7	38
260	A dynamic model of the <i>Escherichia coli</i> phosphate-starvation response. <i>Journal of Theoretical Biology</i> , 1998 , 190, 37-49	2.3	38
259	A kinetic-based approach to understanding heterologous mevalonate pathway function in <i>E. coli</i> . <i>Biotechnology and Bioengineering</i> , 2015 , 112, 111-9	4.9	37
258	Arabinosylation of a Yarrowia lipolytica cell wall polymer impacts plant growth as exemplified by the Arabidopsis glycosyltransferase mutant ray1. <i>Molecular Plant</i> , 2013 , 6, 1369-72	14.4	37
257	Morphology of artificial silica matrices formed via autsilification of a silaffin/protein polymer chimera. <i>Biomacromolecules</i> , 2008 , 9, 1-5	6.9	37
256	Modulation of gene expression from the arabinose-inducible araBAD promoter. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2002 , 29, 34-7	4.2	37
255	Heterologous production of polyketides by modular type I polyketide synthases in <i>Escherichia coli</i> . <i>Current Opinion in Biotechnology</i> , 2012 , 23, 727-35	11.4	36
254	Construction and characterization of F plasmid-based expression vectors. <i>Biotechnology and Bioengineering</i> , 1998 , 59, 659-665	4.9	36

253	Global analysis of host response to induction of a latent bacteriophage. <i>BMC Microbiology</i> , 2007 , 7, 82	4.5	36
252	PR-PR: cross-platform laboratory automation system. <i>ACS Synthetic Biology</i> , 2014 , 3, 515-24	5.7	35
251	Development and validation of a flux-based stoichiometric model for enhanced biological phosphorus removal metabolism. <i>Water Research</i> , 1999 , 33, 462-476	12.5	35
250	Lipid engineering reveals regulatory roles for membrane fluidity in yeast flocculation and oxygen-limited growth. <i>Metabolic Engineering</i> , 2017 , 41, 46-56	9.7	34
249	Impact of Pretreatment Technologies on Saccharification and Isopentenol Fermentation of Mixed Lignocellulosic Feedstocks. <i>Bioenergy Research</i> , 2015 , 8, 1004-1013	3.1	34
248	The Need for Integrated Approaches in Metabolic Engineering. <i>Cold Spring Harbor Perspectives in Biology</i> , 2016 , 8,	10.2	34
247	Biochemical and structural studies of NADH-dependent FabG used to increase the bacterial production of fatty acids under anaerobic conditions. <i>Applied and Environmental Microbiology</i> , 2014 , 80, 497-505	4.8	34
246	The Experiment Data Depot: A Web-Based Software Tool for Biological Experimental Data Storage, Sharing, and Visualization. <i>ACS Synthetic Biology</i> , 2017 , 6, 2248-2259	5.7	34
245	Engineering of a tyrosol-producing pathway, utilizing simple sugar and the central metabolic tyrosine, in <i>Escherichia coli</i> . <i>Journal of Agricultural and Food Chemistry</i> , 2012 , 60, 979-84	5.7	34
244	A efflux pump acts on short-chain alcohols. <i>Biotechnology for Biofuels</i> , 2018 , 11, 136	7.8	33
243	Activation and inhibition of rubber transferases by metal cofactors and pyrophosphate substrates. <i>Phytochemistry</i> , 2003 , 64, 123-34	4	33
242	High-titer production of lathyrane diterpenoids from sugar by engineered <i>Saccharomyces cerevisiae</i> . <i>Metabolic Engineering</i> , 2018 , 45, 142-148	9.7	32
241	Biofuels for a sustainable future. <i>Cell</i> , 2021 , 184, 1636-1647	56.2	32
240	Sustainable bioproduction of the blue pigment indigoidine: Expanding the range of heterologous products in <i>R. toruloides</i> to include non-ribosomal peptides. <i>Green Chemistry</i> , 2019 , 21, 3394-3406	10	31
239	Engineering a functional 1-deoxy-D-xylulose 5-phosphate (DXP) pathway in <i>Saccharomyces cerevisiae</i> . <i>Metabolic Engineering</i> , 2016 , 38, 494-503	9.7	31
238	Central metabolism in <i>Mycobacterium smegmatis</i> during the transition from O ₂ -rich to O ₂ -poor conditions as studied by isotopomer-assisted metabolite analysis. <i>Biotechnology Letters</i> , 2009 , 31, 1233-40	3.0	31
237	Tracing determinants of dual substrate specificity in glycoside hydrolase family 5. <i>Journal of Biological Chemistry</i> , 2012 , 287, 25335-43	5.4	31
236	A microfabricated electrochemical oxygen generator for high-density cell culture arrays. <i>Journal of Microelectromechanical Systems</i> , 2003 , 12, 590-599	2.5	31

235	Functional characterization of four sesquiterpene synthases from <i>Ricinus communis</i> (castor bean). <i>Phytochemistry</i> , 2012 , 78, 20-8	4	30
234	Engineering temporal accumulation of a low recalcitrance polysaccharide leads to increased C6 sugar content in plant cell walls. <i>Plant Biotechnology Journal</i> , 2015 , 13, 903-14	11.6	30
233	Development of a native <i>Escherichia coli</i> induction system for ionic liquid tolerance. <i>PLoS ONE</i> , 2014 , 9, e101115	3.7	30
232	Engineering mRNA stability in <i>E. coli</i> by the addition of synthetic hairpins using a 5' cassette system. <i>Biotechnology and Bioengineering</i> , 1997 , 55, 577-80	4.9	30
231	Improved assembly of multimeric genes for the biosynthetic production of protein polymers. <i>Biomacromolecules</i> , 2002 , 3, 874-9	6.9	30
230	Mechanistic Analysis of an Engineered Enzyme that Catalyzes the Formose Reaction. <i>ChemBioChem</i> , 2015 , 16, 1950-1954	3.8	29
229	Interlaboratory study to evaluate the robustness of capillary electrophoresis-mass spectrometry for peptide mapping. <i>Journal of Separation Science</i> , 2015 , 38, 3262-3270	3.4	29
228	Broad substrate specificity of the loading didomain of the lipomycin polyketide synthase. <i>Biochemistry</i> , 2013 , 52, 3791-3	3.2	29
227	Invariability of central metabolic flux distribution in <i>Shewanella oneidensis</i> MR-1 under environmental or genetic perturbations. <i>Biotechnology Progress</i> , 2009 , 25, 1254-9	2.8	29
226	Polyphosphate binding and chain length recognition of <i>Escherichia coli</i> exopolyphosphatase. <i>Journal of Biological Chemistry</i> , 2000 , 275, 33814-9	5.4	29
225	Short-chain ketone production by engineered polyketide synthases in <i>Streptomyces albus</i> . <i>Nature Communications</i> , 2018 , 9, 4569	17.4	29
224	Massively Parallel Fitness Profiling Reveals Multiple Novel Enzymes in Lysine Metabolism. <i>MBio</i> , 2019 , 10,	7.8	28
223	Discovery of enzymes for toluene synthesis from anoxic microbial communities. <i>Nature Chemical Biology</i> , 2018 , 14, 451-457	11.7	28
222	Regulation of rubber biosynthetic rate and molecular weight in <i>Hevea brasiliensis</i> by metal cofactor. <i>Biomacromolecules</i> , 2005 , 6, 279-89	6.9	28
221	C Metabolic Flux Analysis for Systematic Metabolic Engineering of for Overproduction of Fatty Acids. <i>Frontiers in Bioengineering and Biotechnology</i> , 2016 , 4, 76	5.8	28
220	Switchable ionic liquids based on di-carboxylic acids for one-pot conversion of biomass to an advanced biofuel. <i>Green Chemistry</i> , 2016 , 18, 4012-4021	10	28
219	Microbially derived artemisinin: a biotechnology solution to the global problem of access to affordable antimalarial drugs. <i>American Journal of Tropical Medicine and Hygiene</i> , 2007 , 77, 198-202	3.2	28
218	Deciphering flux adjustments of engineered <i>E. coli</i> cells during fermentation with changing growth conditions. <i>Metabolic Engineering</i> , 2017 , 39, 247-256	9.7	27

217	Recombinant DNA techniques for bioremediation and environmentally-friendly synthesis. <i>Current Opinion in Biotechnology</i> , 1998 , 9, 135-40	11.4	27
216	Optimization of DsRed production in Escherichia coli: effect of ribosome binding site sequestration on translation efficiency. <i>Biotechnology and Bioengineering</i> , 2005 , 92, 553-8	4.9	27
215	Divergent mechanistic routes for the formation of gem-dimethyl groups in the biosynthesis of complex polyketides. <i>Angewandte Chemie - International Edition</i> , 2015 , 54, 2370-3	16.4	26
214	Physical and functional interactions of a monothiol glutaredoxin and an iron sulfur cluster carrier protein with the sulfur-donating radical S-adenosyl-L-methionine enzyme MiaB. <i>Journal of Biological Chemistry</i> , 2013 , 288, 14200-14211	5.4	26
213	Gene Cloning, purification, and characterization of a phosphodiesterase from Delftia acidovorans. <i>Applied and Environmental Microbiology</i> , 2003 , 69, 504-8	4.8	26
212	Dibenzothiophene biodesulfurization pathway improvement using diagnostic GFP fusions. <i>Biotechnology and Bioengineering</i> , 2004 , 88, 94-9	4.9	26
211	Uranyl precipitation by biomass from an enhanced biological phosphorus removal reactor. <i>Biodegradation</i> , 2001 , 12, 401-10	4.1	26
210	Engineering glucose metabolism of under nitrogen starvation. <i>Npj Systems Biology and Applications</i> , 2017 , 3, 16035	5	25
209	Optimization of the IPP-bypass mevalonate pathway and fed-batch fermentation for the production of isoprenol in Escherichia coli. <i>Metabolic Engineering</i> , 2019 , 56, 85-96	9.7	25
208	Molecular basis for interactions between an acyl carrier protein and a ketosynthase. <i>Nature Chemical Biology</i> , 2019 , 15, 669-671	11.7	25
207	Toward industrial production of isoprenoids in Escherichia coli: Lessons learned from CRISPR-Cas9 based optimization of a chromosomally integrated mevalonate pathway. <i>Biotechnology and Bioengineering</i> , 2018 , 115, 1000-1013	4.9	25
206	Mechanistic modeling of prokaryotic mRNA decay. <i>Journal of Theoretical Biology</i> , 1997 , 189, 195-209	2.3	25
205	Pathway engineering by designed divergent evolution. <i>Current Opinion in Chemical Biology</i> , 2007 , 11, 233-9	9.7	25
204	Genome-scale metabolic rewiring improves titers rates and yields of the non-native product indigoidine at scale. <i>Nature Communications</i> , 2020 , 11, 5385	17.4	25
203	High-throughput enzyme screening platform for the IPP-bypass mevalonate pathway for isopentenol production. <i>Metabolic Engineering</i> , 2017 , 41, 125-134	9.7	24
202	Production of Odd-Carbon Dicarboxylic Acids in Escherichia coli Using an Engineered Biotin-Fatty Acid Biosynthetic Pathway. <i>Journal of the American Chemical Society</i> , 2017 , 139, 4615-4618	16.4	24
201	New frontiers: harnessing pivotal advances in microbial engineering for the biosynthesis of plant-derived terpenoids. <i>Current Opinion in Biotechnology</i> , 2020 , 65, 88-93	11.4	24
200	Supplementation of intracellular XylR leads to coutilization of hemicellulose sugars. <i>Applied and Environmental Microbiology</i> , 2012 , 78, 2221-9	4.8	24

199	Laser spectroscopic studies of interactions of UVI with bacterial phosphate species. <i>Chemistry - A European Journal</i> , 2003 , 9, 2812-8	4.8	24
198	Microbial production of advanced biofuels. <i>Nature Reviews Microbiology</i> , 2021 , 19, 701-715	22.2	24
197	Renewable production of high density jet fuel precursor sesquiterpenes from. <i>Biotechnology for Biofuels</i> , 2018 , 11, 285	7.8	24
196	Overexpression of a rice BAHD acyltransferase gene in switchgrass (<i>Panicum virgatum</i> L.) enhances saccharification. <i>BMC Biotechnology</i> , 2018 , 18, 54	3.5	24
195	Constructing tailored isoprenoid products by structure-guided modification of geranylgeranyl reductase. <i>Structure</i> , 2014 , 22, 1028-36	5.2	23
194	Propionate-regulated high-yield protein production in <i>Escherichia coli</i> . <i>Biotechnology and Bioengineering</i> , 2006 , 93, 912-8	4.9	23
193	Effect of copy number and mRNA processing and stabilization on transcript and protein levels from an engineered dual-gene operon. <i>Biotechnology and Bioengineering</i> , 2002 , 78, 412-24	4.9	23
192	A Monte Carlo simulation of the <i>Escherichia coli</i> cell cycle. <i>Journal of Theoretical Biology</i> , 1995 , 176, 411-30		23
191	Engineering Oxidation in <i>Yarrowia lipolytica</i> for methyl ketone production. <i>Metabolic Engineering</i> , 2018 , 48, 52-62	9.7	23
190	Synthetic biology of polyketide synthases. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2018 , 45, 621-633	4.2	22
189	Use of nonionic surfactants for improvement of terpene production in <i>Saccharomyces cerevisiae</i> . <i>Applied and Environmental Microbiology</i> , 2014 , 80, 6685-93	4.8	22
188	Isotopomer distributions in amino acids from a highly expressed protein as a proxy for those from total protein. <i>Analytical Chemistry</i> , 2008 , 80, 886-90	7.8	22
187	Development of engineered biofilms on poly- L-lysine patterned surfaces. <i>Biotechnology Letters</i> , 2001 , 23, 1235-1241	3	22
186	Production efficiency of the bacterial non-ribosomal peptide indigoidine relies on the respiratory metabolic state in <i>S. cerevisiae</i> . <i>Microbial Cell Factories</i> , 2018 , 17, 193	6.4	22
185	System-level perturbations of cell metabolism using CRISPR/Cas9. <i>Current Opinion in Biotechnology</i> , 2017 , 46, 134-140	11.4	21
184	Optimization of renewable pinene production from the conversion of macroalgae <i>Saccharina latissima</i> . <i>Bioresource Technology</i> , 2015 , 184, 415-420	11	21
183	Exploiting members of the BAHD acyltransferase family to synthesize multiple hydroxycinnamate and benzoate conjugates in yeast. <i>Microbial Cell Factories</i> , 2016 , 15, 198	6.4	21
182	Alteration of Polyketide Stereochemistry from anti to syn by a Ketoreductase Domain Exchange in a Type I Modular Polyketide Synthase Subunit. <i>Biochemistry</i> , 2016 , 55, 1677-80	3.2	21

181	Mutations in Escherichia coli aceE and ribB genes allow survival of strains defective in the first step of the isoprenoid biosynthesis pathway. <i>PLoS ONE</i> , 2012 , 7, e43775	3.7	21
180	Diterpene production in Mycobacterium tuberculosis. <i>FEBS Journal</i> , 2010 , 277, 3588-95	5.7	21
179	A rapid and inexpensive labeling method for microarray gene expression analysis. <i>BMC Biotechnology</i> , 2009 , 9, 97	3.5	21
178	Study of stationary phase metabolism via isotopomer analysis of amino acids from an isolated protein. <i>Biotechnology Progress</i> , 2010 , 26, 52-6	2.8	21
177	Coupling S-adenosylmethionine-dependent methylation to growth: Design and uses. <i>PLoS Biology</i> , 2019 , 17, e2007050	9.7	20
176	Isolation and characterization of novel mutations in the pSC101 origin that increase copy number. <i>Scientific Reports</i> , 2018 , 8, 1590	4.9	20
175	Application of targeted proteomics to metabolically engineered Escherichia coli. <i>Proteomics</i> , 2012 , 12, 1289-99	4.8	20
174	Expression profiling of hypothetical genes in Desulfovibrio vulgaris leads to improved functional annotation. <i>Nucleic Acids Research</i> , 2009 , 37, 2926-39	20.1	20
173	Heterologous protein production in Escherichia coli using the propionate-inducible pPro system by conventional and auto-induction methods. <i>Protein Expression and Purification</i> , 2008 , 61, 197-203	2	20
172	Promoter Architecture and Promoter Engineering in. <i>Metabolites</i> , 2020 , 10,	5.6	20
171	Microbioreactor arrays with parametric control for high-throughput experimentation. <i>Biotechnology and Bioengineering</i> , 2004 , 86, 485-90	4.9	20
170	Enhanced production of taxadiene in Saccharomyces cerevisiae. <i>Microbial Cell Factories</i> , 2020 , 19, 200	6.4	19
169	Metabolic engineering of for the biosynthesis of 2-pyrrolidone. <i>Metabolic Engineering Communications</i> , 2016 , 3, 1-7	6.5	19
168	Structural and functional analysis of two di-domain aromatase/cyclases from type II polyketide synthases. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, E6844-51	11.5	19
167	A deep-sea hydrothermal vent isolate, Pseudomonas aeruginosa CW961, requires thiosulfate for Cd tolerance and precipitation. <i>Biotechnology Letters</i> , 2002 , 24, 637-641	3	19
166	Investigation of Proposed Ladderane Biosynthetic Genes from Anammox Bacteria by Heterologous Expression in E. coli. <i>PLoS ONE</i> , 2016 , 11, e0151087	3.7	19
165	Leveraging host metabolism for bisdemethoxycurcumin production in. <i>Metabolic Engineering Communications</i> , 2020 , 10, e00119	6.5	19
164	A High-Throughput Mass Spectrometric Enzyme Activity Assay Enabling the Discovery of Cytochrome P450 Biocatalysts. <i>Angewandte Chemie - International Edition</i> , 2019 , 58, 10114-10119	16.4	18

163	In vitro analysis of carboxyacyl substrate tolerance in the loading and first extension modules of borrelidin polyketide synthase. <i>Biochemistry</i> , 2014 , 53, 5975-7	3.2	18
162	Encoding substrates with mass tags to resolve stereospecific reactions using Nimzyme. <i>Rapid Communications in Mass Spectrometry</i> , 2012 , 26, 611-5	2.2	18
161	ColE1 plasmid replication: a simple kinetic description from a structured model. <i>Journal of Theoretical Biology</i> , 1989 , 141, 447-61	2.3	18
160	Automated "Cells-To-Peptides" Sample Preparation Workflow for High-Throughput, Quantitative Proteomic Assays of Microbes. <i>Journal of Proteome Research</i> , 2019 , 18, 3752-3761	5.6	17
159	A combinatorial approach to synthetic transcription factor-promoter combinations for yeast strain engineering. <i>Yeast</i> , 2018 , 35, 273-280	3.4	17
158	Oxidative cyclization of prodigiosin by an alkylglycerol monooxygenase-like enzyme. <i>Nature Chemical Biology</i> , 2017 , 13, 1155-1157	11.7	17
157	Mass spectrometry-based microbial metabolomics. <i>Methods in Molecular Biology</i> , 2012 , 881, 215-78	1.4	17
156	A Monte Carlo simulation of plasmid replication during the bacterial division cycle. <i>Biotechnology and Bioengineering</i> , 1996 , 52, 633-47	4.9	17
155	Leveling the cost and carbon footprint of circular polymers that are chemically recycled to monomer. <i>Science Advances</i> , 2021 , 7,	14.3	17
154	Polyketide mimetics yield structural and mechanistic insights into product template domain function in nonreducing polyketide synthases. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, E4142-E4148	11.5	16
153	High-Resolution Scanning of Optimal Biosensor Reporter Promoters in Yeast. <i>ACS Synthetic Biology</i> , 2020 , 9, 218-226	5.7	16
152	Insights into polyketide biosynthesis gained from repurposing antibiotic-producing polyketide synthases to produce fuels and chemicals. <i>Journal of Antibiotics</i> , 2016 , 69, 494-9	3.7	16
151	Targeted proteomics for metabolic pathway optimization. <i>Methods in Molecular Biology</i> , 2012 , 944, 237-49	1.4	16
150	Expression of a synthetic <i>Artemisia annua</i> amorphadiene synthase in <i>Aspergillus nidulans</i> yields altered product distribution. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2008 , 35, 1191-8	4.2	16
149	Marker and promoter effects on heterologous expression in <i>Aspergillus nidulans</i> . <i>Applied Microbiology and Biotechnology</i> , 2006 , 72, 1014-23	5.7	16
148	Cadmium, lead, and zinc removal by expression of the thiosulfate reductase gene from <i>Salmonella typhimurium</i> in <i>Escherichia coli</i> . <i>Biotechnology Letters</i> , 2000 , 22, 1331-1335	3	16
147	Fatty Acid and Alcohol Metabolism in <i>Pseudomonas putida</i> : Functional Analysis Using Random Barcode Transposon Sequencing. <i>Applied and Environmental Microbiology</i> , 2020 , 86,	4.8	16
146	OpenMSI Arrayed Analysis Toolkit: Analyzing Spatially Defined Samples Using Mass Spectrometry Imaging. <i>Analytical Chemistry</i> , 2017 , 89, 5818-5823	7.8	15

145	Technical Advances to Accelerate Modular Type I Polyketide Synthase Engineering towards a Retro-biosynthetic Platform. <i>Biotechnology and Bioprocess Engineering</i> , 2019 , 24, 413-423	3.1	15
144	Bio-based production of fuels and industrial chemicals by repurposing antibiotic-producing type I modular polyketide synthases: opportunities and challenges. <i>Journal of Antibiotics</i> , 2017 , 70, 378-385	3.7	15
143	A framework and model system to investigate linear system behavior in Escherichia coli. <i>Journal of Biological Engineering</i> , 2011 , 5, 3	6.3	15
142	Kinetics of toluene degradation by a nitrate-reducing bacterium isolated from a groundwater aquifer. <i>Biotechnology and Bioengineering</i> , 1997 , 55, 82-90	4.9	15
141	Initiator-independent and initiator-dependent rubber biosynthesis in Ficus elastica. <i>Archives of Biochemistry and Biophysics</i> , 2006 , 448, 13-22	4.1	15
140	Magnesium ion regulation of in vitro rubber biosynthesis by Parthenium argentatum Gray. <i>Phytochemistry</i> , 2006 , 67, 1621-8	4	15
139	DeviceEditor visual biological CAD canvas. <i>Journal of Biological Engineering</i> , 2012 , 6, 1	6.3	15
138	Synthesis of Cycloprodigiosin Identifies the Natural Isolate as a Scalemic Mixture. <i>Organic Letters</i> , 2015 , 17, 3474-7	6.2	14
137	Structural and Biochemical Analysis of Protein-Protein Interactions Between the Acyl-Carrier Protein and Product Template Domain. <i>Angewandte Chemie - International Edition</i> , 2016 , 55, 13005-13009	16.4	14
136	Distinct functional roles for hopanoid composition in the chemical tolerance of Zymomonas mobilis. <i>Molecular Microbiology</i> , 2019 , 112, 1564-1575	4.1	14
135	Versatile synthesis of probes for high-throughput enzyme activity screening. <i>Analytical and Bioanalytical Chemistry</i> , 2013 , 405, 4969-73	4.4	14
134	Unnatural biosynthesis by an engineered microorganism with heterologously expressed natural enzymes and an artificial metalloenzyme. <i>Nature Chemistry</i> , 2021 , 13, 1186-1191	17.6	14
133	Identification, Characterization, and Application of a Highly Sensitive Lactam Biosensor from. <i>ACS Synthetic Biology</i> , 2020 , 9, 53-62	5.7	14
132	Modular 5'-UTR hexamers for context-independent tuning of protein expression in eukaryotes. <i>Nucleic Acids Research</i> , 2018 , 46, e127	20.1	14
131	Mevalonate Pathway Promiscuity Enables Noncanonical Terpene Production. <i>ACS Synthetic Biology</i> , 2019 , 8, 2238-2247	5.7	13
130	Enhancing Terminal Deoxynucleotidyl Transferase Activity on Substrates with 3' Terminal Structures for Enzymatic De Novo DNA Synthesis. <i>Genes</i> , 2020 , 11,	4.2	13
129	De novo synthesis of the sedative valerenic acid in Saccharomyces cerevisiae. <i>Metabolic Engineering</i> , 2018 , 47, 94-101	9.7	13
128	Probing the Flexibility of an Iterative Modular Polyketide Synthase with Non-Native Substrates in Vitro. <i>ACS Chemical Biology</i> , 2018 , 13, 2261-2268	4.9	13

127	Synthetic Biology in Pursuit of Inexpensive, Effective, Anti-Malarial Drugs. <i>BioSocieties</i> , 2009 , 4, 275-282	1.5	13
126	Generalized schemes for high-throughput manipulation of the <i>Desulfovibrio vulgaris</i> genome. <i>Applied and Environmental Microbiology</i> , 2011 , 77, 7595-604	4.8	13
125	A Salmonella-based, propionate-inducible, expression system for <i>Salmonella enterica</i> . <i>Gene</i> , 2006 , 377, 6-11	3.8	13
124	Analysis of an engineered sulfate reduction pathway and cadmium precipitation on the cell surface. <i>Biotechnology and Bioengineering</i> , 2001 , 75, 285-91	4.9	13
123	A rapid methods development workflow for high-throughput quantitative proteomic applications. <i>PLoS ONE</i> , 2019 , 14, e0211582	3.7	13
122	Application of targeted proteomics and biological parts assembly in <i>E. coli</i> to optimize the biosynthesis of an anti-malarial drug precursor, amorpha-4,11-diene. <i>Chemical Engineering Science</i> , 2013 , 103, 21-28	4.4	12
121	Biochemical production of ethanol and fatty acid ethyl esters from switchgrass: A comparative analysis of environmental and economic performance. <i>Biomass and Bioenergy</i> , 2013 , 49, 49-62	5.3	12
120	The JBEI quantitative metabolic modeling library (jQMM): a python library for modeling microbial metabolism. <i>BMC Bioinformatics</i> , 2017 , 18, 205	3.6	12
119	Construction of a part of a 3-hydroxypropionate cycle for heterologous polyketide biosynthesis in <i>Escherichia coli</i> . <i>Biochemistry</i> , 2012 , 51, 9779-81	3.2	12
118	Precursor-Directed Combinatorial Biosynthesis of Cinnamoyl, Dihydrocinnamoyl, and Benzoyl Anthranilates in <i>Saccharomyces cerevisiae</i> . <i>PLoS ONE</i> , 2015 , 10, e0138972	3.7	12
117	Optimizing the biosynthesis of oxygenated and acetylated Taxol precursors in <i>Saccharomyces cerevisiae</i> using advanced bioprocessing strategies. <i>Biotechnology and Bioengineering</i> , 2021 , 118, 279-293	4.9	12
116	Omics-driven identification and elimination of valerolactam catabolism in KT2440 for increased product titer. <i>Metabolic Engineering Communications</i> , 2019 , 9, e00098	6.5	11
115	Post-translational modifications of <i>Desulfovibrio vulgaris</i> Hildenborough sulfate reduction pathway proteins. <i>Journal of Proteome Research</i> , 2008 , 7, 2320-31	5.6	11
114	Manipulation of intracellular magnesium levels in <i>Saccharomyces cerevisiae</i> with deletion of magnesium transporters. <i>Applied Microbiology and Biotechnology</i> , 2007 , 77, 411-25	5.7	11
113	Engineering Plant Synthetic Pathways for the Biosynthesis of Novel Antifungals. <i>ACS Central Science</i> , 2020 , 6, 1394-1400	16.8	11
112	Improving methyl ketone production in <i>Escherichia coli</i> by heterologous expression of NADH-dependent FabG. <i>Biotechnology and Bioengineering</i> , 2018 , 115, 1161-1172	4.9	10
111	Polyketide synthases as a platform for chemical product design. <i>AIChE Journal</i> , 2018 , 64, 4201-4207	3.6	10
110	Effect of polyphosphate metabolism on the <i>Escherichia coli</i> phosphate-starvation response. <i>Biotechnology Progress</i> , 1999 , 15, 587-93	2.8	10

109	Towards a rigorous network of protein-protein interactions of the model sulfate reducer <i>Desulfovibrio vulgaris</i> Hildenborough. <i>PLoS ONE</i> , 2011 , 6, e21470	3.7	10
108	Regulatory control circuits for stabilizing long-term anabolic product formation in yeast. <i>Metabolic Engineering</i> , 2020 , 61, 369-380	9.7	10
107	Effect of Glucose or Glycerol as the Sole Carbon Source on Gene Expression from the <i>Salmonella</i> prpBCDE Promoter in <i>Escherichia coli</i> . <i>Biotechnology Progress</i> , 2006 , 22, 1547-1551	2.8	10
106	Endoribonuclease-Based Two-Component Repressor Systems for Tight Gene Expression Control in Plants. <i>ACS Synthetic Biology</i> , 2017 , 6, 806-816	5.7	9
105	Assay for lignin breakdown based on lignin films: insights into the Fenton reaction with insoluble lignin. <i>Green Chemistry</i> , 2015 , 17, 4830-4845	10	9
104	Investigation of Indigoidine Synthetase Reveals a Conserved Active-Site Base Residue of Nonribosomal Peptide Synthetase Oxidases. <i>Journal of the American Chemical Society</i> , 2020 , 142, 10931-10935 ¹⁶⁴	16.4	9
103	Response of <i>Pseudomonas putida</i> to Complex, Aromatic-Rich Fractions from Biomass. <i>ChemSusChem</i> , 2020 , 13, 4455-4467	8.3	9
102	Kinetics of phosphomevalonate kinase from <i>Saccharomyces cerevisiae</i> . <i>PLoS ONE</i> , 2014 , 9, e87112	3.7	9
101	Identification of a cyclic-di-GMP-modulating response regulator that impacts biofilm formation in a model sulfate reducing bacterium. <i>Frontiers in Microbiology</i> , 2014 , 5, 382	5.7	9
100	Chloroxanthomycin, a fluorescent, chlorinated, pentacyclic pyrene from a <i>Bacillus</i> sp. <i>Applied and Environmental Microbiology</i> , 2002 , 68, 4095-101	4.8	9
99	Dual-selection for evolution of in vivo functional aptazymes as riboswitch parts. <i>Methods in Molecular Biology</i> , 2014 , 1111, 221-35	1.4	9
98	Design, Engineering, and Characterization of Prokaryotic Ligand-Binding Transcriptional Activators as Biosensors in Yeast. <i>Methods in Molecular Biology</i> , 2018 , 1671, 269-290	1.4	9
97	Insights into Complex Oxidation during BE-7585A Biosynthesis: Structural Determination and Analysis of the Polyketide Monooxygenase BexE. <i>ACS Chemical Biology</i> , 2016 , 11, 1137-47	4.9	8
96	Cycle-specific replication of chromosomal and F-plasmid origins. <i>FEMS Microbiology Letters</i> , 1998 , 163, 217-22	2.9	8
95	Modulation of the phosphate-starvation response in <i>Escherichia coli</i> by genetic manipulation of the polyphosphate pathways. <i>Biotechnology and Bioengineering</i> , 1996 , 51, 434-8	4.9	8
94	Development of an integrated approach for α -pinene recovery and sugar production from loblolly pine using ionic liquids. <i>Green Chemistry</i> , 2017 , 19, 1117-1127	10	7
93	Heterologous Gene Expression of N-Terminally Truncated Variants of LipPks1 Suggests a Functionally Critical Structural Motif in the N-terminus of Modular Polyketide Synthase. <i>ACS Chemical Biology</i> , 2017 , 12, 2725-2729	4.9	7
92	Robust Characterization of Two Distinct Glutarate Sensing Transcription Factors of L-Lysine Metabolism. <i>ACS Synthetic Biology</i> , 2019 , 8, 2385-2396	5.7	7

91	Programmable polyketide biosynthesis platform for production of aromatic compounds in yeast. <i>Synthetic and Systems Biotechnology</i> , 2020 , 5, 11-18	4.2	7
90	Engineered Production of Short-Chain Acyl-Coenzyme A Esters in <i>Saccharomyces cerevisiae</i> . <i>ACS Synthetic Biology</i> , 2018 , 7, 1105-1115	5.7	7
89	Enzyme analysis of the polyketide synthase leads to the discovery of a novel analog of the antibiotic β -ipomycin. <i>Journal of Antibiotics</i> , 2014 , 67, 199-201	3.7	7
88	Utilizing a highly responsive gene, <i>yhjX</i> , in <i>E. coli</i> based production of 1,4-butanediol. <i>Chemical Engineering Science</i> , 2013 , 103, 68-73	4.4	7
87	Understanding the role of histidine in the GHSxG acyltransferase active site motif: evidence for histidine stabilization of the malonyl-enzyme intermediate. <i>PLoS ONE</i> , 2014 , 9, e109421	3.7	7
86	Analysis of biofilm structure and gene expression using fluorescence dual labeling. <i>Biotechnology Progress</i> , 2001 , 17, 1180-2	2.8	7
85	Engineered Reversal of Function in Glycolytic Yeast Promoters. <i>ACS Synthetic Biology</i> , 2019 , 8, 1462-1468	3.7	6
84	Adenosine Triphosphate and Carbon Efficient Route to Second Generation Biofuel Isopentanol. <i>ACS Synthetic Biology</i> , 2020 , 9, 468-474	5.7	6
83	Biochemical Characterization of β -Amino Acid Incorporation in Fluvirucin B Biosynthesis. <i>ChemBioChem</i> , 2018 , 19, 1391-1395	3.8	6
82	Commodity Chemicals From Engineered Modular Type I Polyketide Synthases. <i>Methods in Enzymology</i> , 2018 , 608, 393-415	1.7	6
81	Structure of FabH and factors affecting the distribution of branched fatty acids in <i>Micrococcus luteus</i> . <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2012 , 68, 1320-8		6
80	A Simple Method for Enzymatic Synthesis of Unlabeled and Radiolabeled Hydroxycinnamate-CoA. <i>Bioenergy Research</i> , 2010 , 3, 115-122	3.1	6
79	The Joint BioEnergy Institute (JBEI): Developing New Biofuels by Overcoming Biomass Recalcitrance. <i>Bioenergy Research</i> , 2010 , 3, 105-107	3.1	6
78	Optimization of polyphosphate degradation and phosphate secretion using hybrid metabolic pathways and engineered host strains. <i>Biotechnology and Bioengineering</i> , 1998 , 59, 754-61	4.9	6
77	The effect of monovalent ions on polyphosphate binding to <i>Escherichia coli</i> exopolyphosphatase. <i>Biochemical and Biophysical Research Communications</i> , 2000 , 274, 236-41	3.4	6
76	Ultrasonic flexural-plate-wave sensor for detecting the concentration of settling <i>E. coli</i> W3110 cells. <i>Analytical Chemistry</i> , 1999 , 71, 3622-5	7.8	6
75	Modular Synthetic Inverters from Zinc Finger Proteins and Small RNAs. <i>PLoS ONE</i> , 2016 , 11, e0149483	3.7	6
74	Metabolite profiling of plastidial deoxyxylulose-5-phosphate pathway intermediates by liquid chromatography and mass spectrometry. <i>Methods in Molecular Biology</i> , 2014 , 1153, 57-76	1.4	6

73	Insight into the Mechanism of Phenylacetate Decarboxylase (PhdB), a Toluene-Producing Glycyl Radical Enzyme. <i>ChemBioChem</i> , 2020 , 21, 663-671	3.8	6
72	Engineering yeast metabolism for the discovery and production of polyamines and polyamine analogues. <i>Nature Catalysis</i> , 2021 , 4, 498-509	36.5	6
71	Synthetic Biology for Fundamental Biochemical Discovery. <i>Biochemistry</i> , 2019 , 58, 1464-1469	3.2	6
70	Assembly and Multiplex Genome Integration of Metabolic Pathways in Yeast Using CasEMBLR. <i>Methods in Molecular Biology</i> , 2018 , 1671, 185-201	1.4	6
69	The Design-Build-Test-Learn cycle for metabolic engineering of Streptomyces. <i>Essays in Biochemistry</i> , 2021 , 65, 261-275	7.6	6
68	Chemoinformatic-Guided Engineering of Polyketide Synthases. <i>Journal of the American Chemical Society</i> , 2020 , 142, 9896-9901	16.4	5
67	Correction: Production of hydroxycinnamoyl anthranilates from glucose in Escherichia coli. <i>Microbial Cell Factories</i> , 2014 , 13, 8	6.4	5
66	Kinetics of BTEX degradation by a nitrate-reducing mixed culture. <i>Annals of the New York Academy of Sciences</i> , 1997 , 829, 135-41	6.5	5
65	Control of polyphosphate metabolism in genetically engineered Escherichia coli. <i>Enzyme and Microbial Technology</i> , 1999 , 24, 21-25	3.8	5
64	Expression of S-adenosylmethionine Hydrolase in Tissues Synthesizing Secondary Cell Walls Alters Specific Methylated Cell Wall Fractions and Improves Biomass Digestibility. <i>Frontiers in Bioengineering and Biotechnology</i> , 2016 , 4, 58	5.8	5
63	Liquid Chromatography and Mass Spectrometry Analysis of Isoprenoid Intermediates in Escherichia coli. <i>Methods in Molecular Biology</i> , 2019 , 1859, 209-224	1.4	5
62	Sustainable manufacturing with synthetic biology.. <i>Nature Biotechnology</i> , 2022 ,	44.5	5
61	Directed evolution of VanR biosensor specificity in yeast. <i>Biotechnology Notes</i> , 2020 , 1, 9-15	1.3	4
60	Structure and Function of BorB, the Type II Thioesterase from the Borrelidin Biosynthetic Gene Cluster. <i>Biochemistry</i> , 2020 , 59, 1630-1639	3.2	4
59	Engineering Bacteria to Catabolize the Carbonaceous Component of Sarin: Teaching E. coli to Eat Isopropanol. <i>ACS Synthetic Biology</i> , 2016 , 5, 1485-1496	5.7	4
58	Rationally engineered biotransformation of p-nitrophenol. <i>Biotechnology Progress</i> , 2010 , 26, 616-21	2.8	4
57	Effect of glucose or glycerol as the sole carbon source on gene expression from the Salmonella prpBCDE promoter in Escherichia coli. <i>Biotechnology Progress</i> , 2006 , 22, 1547-51	2.8	4
56	Effects of transcription induction homogeneity and transcript stability on expression of two genes in a constructed operon. <i>Applied Microbiology and Biotechnology</i> , 2001 , 57, 689-96	5.7	4

55	Functional characterization of the origin of replication of pRN1 from <i>Sulfolobus islandicus</i> REN1H1. <i>PLoS ONE</i> , 2013 , 8, e84664	3.7	4
54	Integrating continuous hypermutation with high-throughput screening for optimization of cis,cis-muconic acid production in yeast. <i>Microbial Biotechnology</i> , 2021 , 14, 2617-2626	6.3	4
53	A High-Throughput Mass Spectrometric Enzyme Activity Assay Enabling the Discovery of Cytochrome P450 Biocatalysts. <i>Angewandte Chemie</i> , 2019 , 131, 10220-10225	3.6	3
52	Structural insights into dehydratase substrate selection for the borrelidin and fluvirucin polyketide synthases. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2019 , 46, 1225-1235	4.2	3
51	Synthetic biology: A global approach. <i>Nature</i> , 2014 , 510, 218	50.4	3
50	Definitive alkene identification needed for in vitro studies with ole (olefin biosynthesis) proteins. <i>Journal of Biological Chemistry</i> , 2011 , 286, 1e11; author reply 1e12-3	5.4	3
49	Isolation and Characterization of Bacterial Cellulase Producers for Biomass Deconstruction: A Microbiology Laboratory Course. <i>Journal of Microbiology and Biology Education</i> , 2019 , 20,	1.3	3
48	Supplying plant natural products by yeast cell factories. <i>Current Opinion in Green and Sustainable Chemistry</i> , 2022 , 33, 100567	7.9	3
47	Genome-scale metabolic rewiring to achieve predictable titers rates and yield of a non-native product at scale		3
46	Glutarate metabolism in <i>Pseudomonas putida</i> is regulated by two distinct glutarate sensing transcription factors		3
45	Evolution-guided engineering of small-molecule biosensors		3
44	Structural Mechanism of Regioselectivity in an Unusual Bacterial Acyl-CoA Dehydrogenase. <i>Journal of the American Chemical Society</i> , 2020 , 142, 835-846	16.4	3
43	High titer methyl ketone production with tailored <i>Pseudomonas taiwanensis</i> VLB120. <i>Metabolic Engineering</i> , 2020 , 62, 84-94	9.7	3
42	Investigation of Bar-seq as a method to study population dynamics of <i>Saccharomyces cerevisiae</i> deletion library during bioreactor cultivation. <i>Microbial Cell Factories</i> , 2020 , 19, 167	6.4	3
41	A synthetic RNA-mediated evolution system in yeast. <i>Nucleic Acids Research</i> , 2021 , 49, e88	20.1	3
40	Structural and Biochemical Analysis of Protein-Protein Interactions Between the Acyl-Carrier Protein and Product Template Domain. <i>Angewandte Chemie</i> , 2016 , 128, 13199-13203	3.6	3
39	Constraining Genome-Scale Models to Represent the Bow Tie Structure of Metabolism for C Metabolic Flux Analysis. <i>Metabolites</i> , 2018 , 8,	5.6	3
38	An iron (II) dependent oxygenase performs the last missing step of plant lysine catabolism. <i>Nature Communications</i> , 2020 , 11, 2931	17.4	2

37	Complete reductive dechlorination of trichloroethene by a groundwater microbial consortium. <i>Annals of the New York Academy of Sciences</i> , 1997 , 829, 97-102	6.5	2
36	Synthetic Biology of Microbial Biofuel Production: From Enzymes to Pathways to Organisms 2013 , 207-223		1
35	Independence among synthetic genetic devices in the bacterium <i>Escherichia coli</i> extends to the time-domain 2014 ,		1
34	Control of Stress Tolerance in Bacterial Host Organisms for Bioproduction of Fuels. <i>Microbiology Monographs</i> , 2012 , 209-238	0.8	1
33	Microbial Production of Plant-Derived Pharmaceutical Natural Products through Metabolic Engineering: Artemisinin and beyond 2011 , 173-196		1
32	Q&A roundtable on US bioenergy research. <i>Industrial Biotechnology</i> , 2011 , 7, 264-266	1.3	1
31	Assembly and Evolution of Artificial Metalloenzymes within Nissle 1917 for Enantioselective and Site-Selective Functionalization of C-H and C=C Bonds.. <i>Journal of the American Chemical Society</i> , 2022 ,	16.4	1
30	A synthetic promoter system for well-controlled protein expression with different carbon sources in <i>Saccharomyces cerevisiae</i> . <i>Microbial Cell Factories</i> , 2021 , 20, 202	6.4	1
29	Lepidopteran mevalonate pathway optimization in <i>Escherichia coli</i> efficiently produces isoprenol analogs for next-generation biofuels. <i>Metabolic Engineering</i> , 2021 , 68, 210-219	9.7	1
28	Massively parallel fitness profiling reveals multiple novel enzymes in <i>Pseudomonas putida</i> lysine metabolism		1
27	Versatile polyketide biosynthesis platform for production of aromatic compounds in yeast		1
26	<i>Rhodospiridium toruloides</i> : A new platform organism for conversion of lignocellulose into terpene biofuels and bioproducts		1
25	Enhanced production of taxadiene in <i>Saccharomyces cerevisiae</i>		1
24	An orthogonal and pH-tunable sensor-selector for muconic acid biosynthesis in yeast		1
23	Host engineering for improved valerolactam production in <i>Pseudomonas putida</i>		1
22	Structural mechanism of regioselectivity in an unusual bacterial acyl-CoA dehydrogenase		1
21	Predictive engineering and optimization of tryptophan metabolism in yeast through a combination of mechanistic and machine learning models		1
20	Dietary Change Enables Robust Growth-Coupling of Heterologous Methyltransferase Activity in Yeast. <i>ACS Synthetic Biology</i> , 2020 , 9, 3408-3415	5.7	1

19	A bimodular PKS platform that expands the biological design space. <i>Metabolic Engineering</i> , 2020 , 61, 389-396	9.7	1
18	A Reporter System for Cytosolic Protein Aggregates in Yeast. <i>ACS Synthetic Biology</i> , 2021 , 10, 466-477	5.7	1
17	Synthetic Enzymology and the Fountain of Youth: Repurposing Biology for Longevity. <i>ACS Omega</i> , 2018 , 3, 11050-11061	3.9	1
16	Biodesulfurization of dibenzothiophene in <i>Escherichia coli</i> is enhanced by expression of a <i>Vibrio harveyi</i> oxidoreductase gene 2000 , 67, 72		1
15	Flux-Enabled Exploration of the Role of Sip1 in Galactose Yeast Metabolism. <i>Frontiers in Bioengineering and Biotechnology</i> , 2017 , 5, 31	5.8	0
14	Lower-Cost, Lower-Carbon Production of Circular Polydiketoenamine Plastics. <i>ACS Sustainable Chemistry and Engineering</i> , 2022 , 10, 2740-2749	8.3	0
13	Nitrogen Metabolism in <i>Pseudomonas putida</i> : Functional Analysis Using Random Barcode Transposon Sequencing.. <i>Applied and Environmental Microbiology</i> , 2022 , e0243021	4.8	0
12	A FAIR-compliant parts catalogue for genome engineering and expression control in .. <i>Synthetic and Systems Biotechnology</i> , 2022 , 7, 657-663	4.2	0
11	Enhanced fatty acid production in engineered chemolithoautotrophic bacteria using reduced sulfur compounds as energy sources. <i>Metabolic Engineering Communications</i> , 2016 , 3, 211-215	6.5	
10	Metabolic Engineering of <i>Escherichia coli</i> for the Production of a Precursor to Artemisinin, an Antimalarial Drug 2014 , 364-379		
9	Joint BioEnergy Institute. <i>Industrial Biotechnology</i> , 2011 , 7, 259-260	1.3	
8	GENETIC AND BIOCHEMICAL MARKERS FOR ENHANCED BIOLOGICAL PHOSPHORUS REMOVAL. <i>Proceedings of the Water Environment Federation</i> , 2003 , 2003, 529-549		
7	Errata to A Microfabricated Electrochemical Oxygen Generator for High-Density Cell Culture Arrays <i>Journal of Microelectromechanical Systems</i> , 2004 , 13, 386-386	2.5	
6	Experimental and Theoretical Considerations of P1-plasmid Replication and Segregation During the <i>E. coli</i> Cell Cycle. <i>Journal of Biological Sciences</i> , 2005 , 5, 222-229	0.4	
5	Feast: Choking on Acetyl-CoA, the Glyoxylate Shunt, and Acetyl-CoA-Driven Metabolism 2018 , 463-474		
4	Engineering Natural Product Biosynthetic Pathways to Produce Commodity and Specialty Chemicals 2020 , 352-376		
3	Feast: Choking on Acetyl-CoA, the Glyoxylate Shunt, and Acetyl-CoA-Driven Metabolism 2016 , 1-12		
2	Design and Construction of a Double Inversion Recombination Switch for Heritable Sequential Genetic Memory 2011 , 175-196		

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