Si Jae Park

List of Publications by Year
in descending order

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112 papers	4,789 citations	81900 39 h-index	110387 64 g-index
116 all docs	116 docs citations	116 times ranked	3395 citing authors

#	Article	IF	Citations
1	Metabolic engineering of Escherichia coli for the production of polylactic acid and its copolymers. Biotechnology and Bioengineering, 2010, 105, 161-171.	3.3	272
2	One-step fermentative production of poly(lactate-co-glycolate) from carbohydrates in Escherichia coli. Nature Biotechnology, 2016, 34, 435-440.	17.5	182
3	Biosynthesis of polylactic acid and its copolymers using evolved propionate CoA transferase and PHA synthase. Biotechnology and Bioengineering, 2010, 105, 150-160.	3.3	159
4	Advanced bacterial polyhydroxyalkanoates: Towards a versatile and sustainable platform for unnatural tailor-made polyesters. Biotechnology Advances, 2012, 30, 1196-1206.	11.7	150
5	Biological Valorization of Poly(ethylene terephthalate) Monomers for Upcycling Waste PET. ACS Sustainable Chemistry and Engineering, 2019, 7, 19396-19406.	6.7	141
6	Metabolic engineering of Escherichia coli for the production of 5-aminovalerate and glutarate as C5 platform chemicals. Metabolic Engineering, 2013, 16, 42-47.	7.0	140
7	Metabolic engineering for the synthesis of polyesters: A 100-year journey from polyhydroxyalkanoates to non-natural microbial polyesters. Metabolic Engineering, 2020, 58, 47-81.	7.0	138
8	Synthesis of nylon 4 from gamma-aminobutyrate (GABA) produced by recombinant Escherichia coli. Bioprocess and Biosystems Engineering, 2013, 36, 885-892.	3.4	113
9	Biosynthesis of polyhydroxyalkanoates containing 2-hydroxybutyrate from unrelated carbon source by metabolically engineered Escherichia coli. Applied Microbiology and Biotechnology, 2012, 93, 273-283.	3.6	112
10	Recent advances in development of biomass pretreatment technologies used in biorefinery for the production of bio-based fuels, chemicals and polymers. Korean Journal of Chemical Engineering, 2015, 32, 1945-1959.	2.7	104
11	Metabolic engineering of Corynebacterium glutamicum for enhanced production of 5-aminovaleric acid. Microbial Cell Factories, 2016, 15, 174.	4.0	96
12	Enhanced production of gamma-aminobutyrate (GABA) in recombinant Corynebacterium glutamicum by expressing glutamate decarboxylase active in expanded pH range. Microbial Cell Factories, 2015, 14, 21.	4.0	95
13	Identification and Characterization of a New Enoyl Coenzyme A Hydratase Involved in Biosynthesis of Medium-Chain-Length Polyhydroxyalkanoates in Recombinant Escherichia coli. Journal of Bacteriology, 2003, 185, 5391-5397.	2.2	93
14	Recent Advances in Sustainable Plastic Upcycling and Biopolymers. Biotechnology Journal, 2020, 15, e1900489.	3.5	92
15	One-step fermentative production of aromatic polyesters from glucose by metabolically engineered Escherichia coli strains. Nature Communications, 2018, 9, 79.	12.8	84
16	Metabolic Engineering of Corynebacterium glutamicum for the High-Level Production of Cadaverine That Can Be Used for the Synthesis of Biopolyamide 510. ACS Sustainable Chemistry and Engineering, 2018, 6, 5296-5305.	6.7	83
17	Metabolic engineering of Escherichia coli for biosynthesis of poly(3-hydroxybutyrate-co-3-hydroxyvalerate) from glucose. Applied Microbiology and Biotechnology, 2014, 98, 95-104.	3.6	76
18	Metabolic engineering of Escherichia coli for the production of 1,3-diaminopropane, a three carbon diamine. Scientific Reports, 2015, 5, 13040.	3.3	67

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19	Recent advances in the metabolic engineering of microorganisms for the production of 3-hydroxypropionic acid as C3 platform chemical. Applied Microbiology and Biotechnology, 2013, 97, 3309-3321.	3.6	66
20	Recombinant Ralstonia eutropha engineered to utilize xylose and its use for the production of poly(3-hydroxybutyrate) from sunflower stalk hydrolysate solution. Microbial Cell Factories, 2016, 15, 95.	4.0	66
21	Highâ€level conversion of <scp>L</scp>â€lysine into 5â€aminovalerate that can be used for nylon 6,5 synthesis. Biotechnology Journal, 2014, 9, 1322-1328.	3.5	64
22	Combination of Entner-Doudoroff Pathway with MEP Increases Isoprene Production in Engineered Escherichia coli. PLoS ONE, 2013, 8, e83290.	2.5	64
23	Tailor-made type II Pseudomonas PHA synthases and their use for the biosynthesis of polylactic acid and its copolymer in recombinant Escherichia coli. Applied Microbiology and Biotechnology, 2011, 90, 603-614.	3.6	63
24	Metabolic engineering of Ralstonia eutropha for the biosynthesis of 2-hydroxyacid-containing polyhydroxyalkanoates. Metabolic Engineering, 2013, 20, 20-28.	7.0	63
25	Metabolic engineering of Ralstonia eutropha for the production of polyhydroxyalkanoates from sucrose. Biotechnology and Bioengineering, 2015, 112, 638-643.	3.3	62
26	Metabolic engineering of Corynebacterium glutamicum for fermentative production of chemicals in biorefinery. Applied Microbiology and Biotechnology, 2018, 102, 3915-3937.	3.6	60
27	Synthetic biology platform of CoryneBrick vectors for gene expression in Corynebacterium glutamicum and its application to xylose utilization. Applied Microbiology and Biotechnology, 2014, 98, 5991-6002.	3.6	58
28	Display of Bacterial Lipase on the Escherichia coli Cell Surface by Using FadL as an Anchoring Motif and Use of the Enzyme in Enantioselective Biocatalysis. Applied and Environmental Microbiology, 2004, 70, 5074-5080.	3.1	57
29	Engineering of Escherichia coli fatty acid metabolism for the production of polyhydroxyalkanoates. Enzyme and Microbial Technology, 2005, 36, 579-588.	3.2	57
30	Production of Poly(3-hydroxybutyrate-co-3-hydroxyhexanoate) by Metabolically EngineeredEscherichiacoliStrains. Biomacromolecules, 2001, 2, 248-254.	5.4	54
31	Metabolic engineering ofEscherichia colifor the production of medium-chain-length polyhydroxyalkanoates rich in specific monomers. FEMS Microbiology Letters, 2002, 214, 217-222.	1.8	52
32	Direct bioconversion of d-xylose to 1,2,4-butanetriol in an engineered Escherichia coli. Process Biochemistry, 2014, 49, 25-32.	3.7	52
33	Metabolic engineering of Corynebacterium glutamicum for the production of glutaric acid, a C5 dicarboxylic acid platform chemical. Metabolic Engineering, 2019, 51, 99-109.	7.0	50
34	Chemoautotroph Cupriavidus necator as a potential game-changer for global warming and plastic waste problem: A review. Bioresource Technology, 2021, 340, 125693.	9.6	50
35	Roles and applications of small heat shock proteins in the production of recombinant proteins inEscherichia coli. Biotechnology and Bioengineering, 2004, 88, 426-436.	3.3	47
36	Construction of Synthetic Promoter-Based Expression Cassettes for the Production of Cadaverine in Recombinant Corynebacterium glutamicum. Applied Biochemistry and Biotechnology, 2015, 176, 2065-2075.	2.9	47

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37	Engineered microbial biosensors based on bacterial two-component systems as synthetic biotechnology platforms in bioremediation and biorefinery. Microbial Cell Factories, 2017, 16, 62.	4.0	47
38	Production of 5-aminovaleric acid in recombinant Corynebacterium glutamicum strains from a Miscanthus hydrolysate solution prepared by a newly developed Miscanthus hydrolysis process. Bioresource Technology, 2017, 245, 1692-1700.	9.6	45
39	In silico prediction and validation of the importance of the Entner-Doudoroff pathway in poly(3-hydroxybutyrate) production by metabolically engineeredEscherichia coli. Biotechnology and Bioengineering, 2003, 83, 854-863.	3.3	42
40	Development of rice bran treatment process and its use for the synthesis of polyhydroxyalkanoates from rice bran hydrolysate solution. Bioresource Technology, 2015, 181, 283-290.	9.6	42
41	Enhanced production of gamma-aminobutyrate (GABA) in recombinant Corynebacterium glutamicum strains from empty fruit bunch biosugar solution. Microbial Cell Factories, 2018, 17, 129.	4.0	42
42	Biosynthesis of enantiopure (S)-3-hydroxybutyric acid in metabolically engineered Escherichia coli. Applied Microbiology and Biotechnology, 2008, 79, 633-641.	3.6	38
43	Propionyl-CoA dependent biosynthesis of 2-hydroxybutyrate containing polyhydroxyalkanoates in metabolically engineered Escherichia coli. Journal of Biotechnology, 2013, 165, 93-98.	3.8	38
44	Engineered fumarate sensing Escherichia coli based on novel chimeric two-component system. Journal of Biotechnology, 2013, 168, 560-566.	3.8	38
45	A chemo-microbial hybrid process for the production of 2-pyrone-4,6-dicarboxylic acid as a promising bioplastic monomer from PET waste. Green Chemistry, 2020, 22, 3461-3469.	9.0	36
46	Chemoâ€Biological Upcycling of Poly(ethylene terephthalate) to Multifunctional Coating Materials. ChemSusChem, 2021, 14, 4251-4259.	6.8	36
47	Biosynthesis of lactateâ€containing polyesters by metabolically engineered bacteria. Biotechnology Journal, 2012, 7, 199-212.	3.5	35
48	Development of engineered Escherichia coli whole-cell biocatalysts for high-level conversion of <scp>l</scp>-lysine into cadaverine. Journal of Industrial Microbiology and Biotechnology, 2015, 42, 1481-1491.	3.0	35
49	Development of electrochemical biosensor for detection of pathogenic microorganism in Asian dust events. Chemosphere, 2017, 175, 269-274.	8.2	35
50	Engineering the xyloseâ€catabolizing Dahms pathway for production of poly(d â€lactateâ€co â€glycolate) and poly(d â€lactateâ€co â€glycolateâ€co â€d â€2â€hydroxybutyrate) in Escherichia coli. Microbial Biotechnology, 2017, 10, 1353-1364.	4.2	35
51	Production of gamma-aminobutyric acid from glucose by introduction of synthetic scaffolds between isocitrate dehydrogenase, glutamate synthase and glutamate decarboxylase in recombinant Escherichia coli. Journal of Biotechnology, 2015, 207, 52-57.	3.8	34
52	Fermentative l-lactic acid production from pretreated whole slurry of oil palm trunk treated by hydrothermolysis and subsequent enzymatic hydrolysis. Bioresource Technology, 2015, 185, 143-149.	9.6	34
53	Recent advances in metabolic engineering of Corynebacterium glutamicum as a potential platform microorganism for biorefinery. Biofuels, Bioproducts and Biorefining, 2018, 12, 899-925.	3.7	34
54	Recent Advances in the Metabolic Engineering of Klebsiella pneumoniae: A Potential Platform Microorganism for Biorefineries. Biotechnology and Bioprocess Engineering, 2019, 24, 48-64.	2.6	34

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55	Efficient gamma-aminobutyric acid bioconversion by employing synthetic complex between glutamate decarboxylase and glutamate/GABA antiporter in engineered Escherichia coli. Journal of Industrial Microbiology and Biotechnology, 2013, 40, 927-933.	3.0	33
56	Secretory Production of Recombinant Protein by a High Cell Density Culture of a Protease Negative Mutant Escherichia coli Strain. Biotechnology Progress, 1999, 15, 164-167.	2.6	32
57	Biosynthesis of polyhydroxyalkanoates from sucrose by metabolically engineered Escherichia coli strains. International Journal of Biological Macromolecules, 2020, 149, 593-599.	7.5	30
58	Quantified High-Throughput Screening of Escherichia coli Producing Poly(3-hydroxybutyrate) Based on FACS. Applied Biochemistry and Biotechnology, 2013, 170, 1767-1779.	2.9	29
59	Pilot scale production of poly(3-hydroxybutyrate-co-3-hydroxy-valerate) by fed-batch culture of recombinantEscherichia coli. Biotechnology and Bioprocess Engineering, 2002, 7, 371-374.	2.6	27
60	Efficient production of gamma-aminobutyric acid using Escherichia coli by co-localization of glutamate synthase, glutamate decarboxylase, and GABA transporter. Journal of Industrial Microbiology and Biotechnology, 2016, 43, 79-86.	3.0	27
61	Screening of microorganisms able to degrade low-rank coal in aerobic conditions: Potential coal biosolubilization mediators from coal to biochemicals. Biotechnology and Bioprocess Engineering, 2017, 22, 178-185.	2.6	26
62	Enhanced production of polyâ€˜3â€˜hydroxybutyrate (PHB) by expression of response regulator DR1558 in recombinant Escherichia coli. International Journal of Biological Macromolecules, 2019, 131, 29-35.	7.5	26
63	Biosynthesis of (<I>R</I>)-3-Hydroxyalkanoic Acids by Metabolically Engineered <I>Escherichia coli</I>. Applied Biochemistry and Biotechnology, 2004, 114, 373-380.	2.9	25
64	Biosynthesis of poly(2â€hydroxyisovalerateâ€coâ€lactate) by metabolically engineered Escherichia coli. Biotechnology Journal, 2016, 11, 1572-1585.	3.5	25
65	Biosynthesis of poly(2-hydroxybutyrate-co-lactate) in metabolically engineered Escherichia coli. Biotechnology and Bioprocess Engineering, 2016, 21, 169-174.	2.6	25
66	Valorization of lignocellulosic biomass for polyhydroxyalkanoate production: Status and perspectives. Bioresource Technology, 2022, 360, 127575.	9.6	25
67	Advances in the biological treatment of coal for synthetic natural gas and chemicals. Korean Journal of Chemical Engineering, 2016, 33, 2788-2801.	2.7	23
68	Development of Metabolically Engineered Corynebacterium glutamicum for Enhanced Production of Cadaverine and Its Use for the Synthesis of Bio-Polyamide 510. ACS Sustainable Chemistry and Engineering, 2020, 8, 129-138.	6.7	23
69	Enrichment of specific monomer in medium-chain-length poly(3-hydroxyalkanoates) by amplification of fadD and fadE genes in recombinant Escherichia coli. Enzyme and Microbial Technology, 2003, 33, 62-70.	3.2	22
70	New fadB homologous enzymes and their use in enhanced biosynthesis of medium-chain-length polyhydroxyalkanoates infadB mutantEscherichia coli. Biotechnology and Bioengineering, 2004, 86, 681-686.	3.3	21
71	Characterization of a Whole-Cell Biotransformation Using a Constitutive Lysine Decarboxylase from Escherichia coli for the High-Level Production of Cadaverine from Industrial Grade l-Lysine. Applied Biochemistry and Biotechnology, 2018, 185, 909-924.	2.9	21
72	High-Level Conversion of l-lysine into Cadaverine by Escherichia coli Whole Cell Biocatalyst Expressing Hafnia alvei l-lysine Decarboxylase. Polymers, 2019, 11, 1184.	4.5	21

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73	Recent Advances in Systems Metabolic Engineering Strategies for the Production of Biopolymers. Biotechnology and Bioprocess Engineering, 2020, 25, 848-861.	2.6	21
74	Fermentative High-Level Production of 5-Hydroxyvaleric Acid by Metabolically Engineered Corynebacterium glutamicum. ACS Sustainable Chemistry and Engineering, 2021, 9, 2523-2533.	6.7	21
75	Engineering the intracellular metabolism of Escherichia coli to produce gamma-aminobutyric acid by co-localization of GABA shunt enzymes. Biotechnology Letters, 2016, 38, 321-327.	2.2	20
76	Efficient and simultaneous cleaner production of biodiesel and glycerol carbonate in solvent-free system via statistical optimization. Journal of Cleaner Production, 2019, 218, 985-992.	9.3	20
77	Rapid analysis of polyhydroxyalkanoate contents and its monomer compositions by pyrolysis-gas chromatography combined with mass spectrometry (Py-GC/MS). International Journal of Biological Macromolecules, 2021, 174, 449-456.	7.5	19
78	Biosynthesis of 2â€Hydroxyacidâ€Containing Polyhydroxyalkanoates by Employing butyrylâ€CoA Transferases in Metabolically Engineered Escherichia coli. Biotechnology Journal, 2017, 12, 1700116.	3.5	18
79	Biosynthesis of polyhydroxyalkanoates from sugarcane molasses by recombinant Ralstonia eutropha strains. Korean Journal of Chemical Engineering, 2021, 38, 1452-1459.	2.7	15
80	Microbial production of 2-pyrone-4,6-dicarboxylic acid from lignin derivatives in an engineered Pseudomonas putida and its application for the synthesis of bio-based polyester. Bioresource Technology, 2022, 352, 127106.	9.6	15
81	Gamma-aminobutyric acid production through GABA shunt by synthetic scaffolds introduction in recombinant Escherichia coli. Biotechnology and Bioprocess Engineering, 2016, 21, 261-267.	2.6	14
82	Systems Biological Approach for the Production of Various Polyhydroxyalkanoates by Metabolically EngineeredEscherichia coli. Macromolecular Symposia, 2005, 224, 1-10.	0.7	13
83	A shortcut to carbon-neutral bioplastic production: Recent advances in microbial production of polyhydroxyalkanoates from C1 resources. International Journal of Biological Macromolecules, 2021, 192, 978-998.	7.5	13
84	Improved Productivity of Naringin Oleate with Flavonoid and Fatty Acid by Efficient Enzymatic Esterification. Antioxidants, 2022, 11, 242.	5.1	13
85	Overexpression of Neurospora crassa OR74A glutamate decarboxylase in Escherichia coli for efficient GABA production. Biotechnology and Bioprocess Engineering, 2013, 18, 1062-1066.	2.6	12
86	Hydrogen Production from Methane by Methylomonas sp. DH-1 under Micro-aerobic Conditions. Biotechnology and Bioprocess Engineering, 2020, 25, 71-77.	2.6	12
87	Effect of DR1558, a Deinococcus radiodurans response regulator, on the production of GABA in the recombinant Escherichia coli under low pH conditions. Microbial Cell Factories, 2020, 19, 64.	4.0	12
88	Redirection of Metabolic Flux into Novel Gamma-Aminobutyric Acid Production Pathway by Introduction of Synthetic Scaffolds Strategy in Escherichia Coli. Applied Biochemistry and Biotechnology, 2016, 178, 1315-1324.	2.9	11
89	Mass Transfer Performance of a String Film Reactor: A Bioreactor Design for Aerobic Methane Bioconversion. Catalysts, 2018, 8, 490.	3.5	11
90	Enhanced Production of 2,3-Butanediol in Recombinant Escherichia coli Using Response Regulator DR1558 Derived from Deinococcus radiodurans. Biotechnology and Bioprocess Engineering, 2020, 25, 45-52.	2.6	11

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91	Improving the organic solvent resistance of lipase a from Bacillus subtilis in waterâ€“ethanol solvent through rational surface engineering. Bioresource Technology, 2021, 337, 125394.	9.6	11
92	Co-Localization of GABA Shunt Enzymes for the Efficient Production of Gamma-Aminobutyric Acid via GABA Shunt Pathway in Escherichia coli. Journal of Microbiology and Biotechnology, 2016, 26, 710-716.	2.1	11
93	Consolidated microbial production of four-, five-, and six-carbon organic acids from crop residues: Current status and perspectives. Bioresource Technology, 2022, 351, 127001.	9.6	11
94	A Chimeric Two-Component Regulatory System-Based Escherichia coli Biosensor Engineered to Detect Glutamate. Applied Biochemistry and Biotechnology, 2018, 186, 335-349.	2.9	10
95	Construction of a Vitreoscilla Hemoglobin Promoter-Based Tunable Expression System for Corynebacterium glutamicum. Catalysts, 2018, 8, 561.	3.5	10
96	Microbial cell factories for the production of three-carbon backbone organic acids from agro-industrial wastes. Bioresource Technology, 2022, 349, 126797.	9.6	10
97	Improvement of gamma-amino butyric acid production by an overexpression of glutamate decarboxylase from Pyrococcus horikoshii in Escherichia coli. Biotechnology and Bioprocess Engineering, 2014, 19, 327-331.	2.6	9
98	Bio-solubilization of the untreated low rank coal by alkali-producing bacteria isolated from soil. Korean Journal of Chemical Engineering, 2017, 34, 105-109.	2.7	9
99	Improved reutilization of industrial crude lysine to 1,5-diaminopentane by enzymatic decarboxylation using various detergents and organic solvents. Korean Journal of Chemical Engineering, 2018, 35, 1854-1859.	2.7	9
100	Biosynthesis of Lactate-containing Polyhydroxyalkanoates in Recombinant Escherichia coli by Employing New CoA Transferases. KSBB Journal, 2016, 31, 27-32.	0.2	8
101	Optimized Transformation of Newly Constructed Escherichia coli-Clostridia Shuttle Vectors into Clostridium beijerinckii. Applied Biochemistry and Biotechnology, 2015, 177, 226-236.	2.9	6
102	Recent progress in metabolic engineering of Corynebacterium glutamicum for the production of C4, C5, and C6 chemicals. Korean Journal of Chemical Engineering, 2021, 38, 1291-1307.	2.7	6
103	Development of a bio-chemical route to C5 plasticizer synthesis using glutaric acid produced by metabolically engineered Corynebacterium glutamicum. Green Chemistry, 2022, 24, 1590-1602.	9.0	6
104	Efficient Production of Naringin Acetate with Different Acyl Donors via Enzymatic Transesterification by Lipases. International Journal of Environmental Research and Public Health, 2022, 19, 2972.	2.6	6
105	Recent advances in the microbial production of C4 alcohols by metabolically engineered microorganisms. Biotechnology Journal, 2022, 17, e2000451.	3.5	5
106	Isolation and Proteomic Analysis of a Chlamydomonas reinhardtii Mutant with Enhanced Lipid Production by the Gamma Irradiation Method. Journal of Microbiology and Biotechnology, 2016, 26, 2066-2075.	2.1	5
107	Construction of heterologous gene expression cassettes for the development of recombinant Clostridium beijerinckii. Bioprocess and Biosystems Engineering, 2016, 39, 555-563.	3.4	4
108	Expression characteristics of the maeA and maeB genes by extracellular malate and pyruvate in Escherichia coli. Korean Journal of Chemical Engineering, 2013, 30, 1443-1447.	2.7	3

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109	Establishment of a biosynthesis pathway for (R)-3-hydroxyalkanoates in recombinant Escherichia coli. Korean Journal of Chemical Engineering, 2015, 32, 702-706.	2.7	3
110	Enhancement of Lysine Production in Recombinant Corynebacterium glutamicum through Expression of Deinococcus radiodurans pprM and dr1558 Genes. Microbiology and Biotechnology Letters, 2017, 45, 271-275.	0.4	3
111	Development of Metabolic Engineering Strategies for Microbial Platform to Produce Bioplastics. Applied Chemistry for Engineering, 2014, 25, 134-141.	0.2	1
112	MaoC Mediated Biosynthesis of Medium-chain-length Polyhydroxyalkanoates in Recombinant Escherichia coli from Fatty Acid. KSBB Journal, 2014, 29, 244-249.	0.2	1