Seiichi Taguchi

List of Publications by Year
in descending order

66	1,886	304743 22	276875 41
papers	citations	h-index	g-index

71	71	71	977
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Optimization of Culture Conditions for Secretory Production of 3-Hydroxybutyrate Oligomers Using Recombinant Escherichia coli. Frontiers in Bioengineering and Biotechnology, 2022, 10, 829134.	4.1	2
2	Enhanced Production of (R)-3-Hydroxybutyrate Oligomers by Coexpression of Molecular Chaperones in Recombinant Escherichia coli Harboring a Polyhydroxyalkanoate Synthase Derived from Bacillus cereus YB-4. Microorganisms, 2022, 10, 458.	3.6	1
3	Evolution of polyhydroxyalkanoate synthesizing systems toward a sustainable plastic industry. Polymer Journal, 2021, 53, 67-79.	2.7	32
4	Microbial oversecretion of (R)-3-hydroxybutyrate oligomer with diethylene glycol terminal as a macromonomer for polyurethane synthesis. International Journal of Biological Macromolecules, 2021, 167, 1290-1296.	7.5	7
5	The influence of medium composition on the microbial secretory production of hydroxyalkanoate oligomers. Journal of General and Applied Microbiology, 2021, 67, 134-141.	0.7	9
6	Effect of introducing a disulfide bridge on the thermostability of microbial transglutaminase from Streptomyces mobaraensis. Applied Microbiology and Biotechnology, 2021, 105, 2737-2745.	3.6	12
7	Superior thermal stability and fast crystallization behavior of a novel, biodegradable Î±-methylated bacterial polyester. NPG Asia Materials, 2021, 13, .	7.9	16
8	Editorial: Microbial Production of Biopolyesters and Their Building Blocks: Opportunities and Challenges. Frontiers in Bioengineering and Biotechnology, 2021, 9, 777265.	4.1	1
9	Changed bacterial community in the river water samples upon introduction of biodegradable poly(3-hydroxybutyrate). Polymer Degradation and Stability, 2020, 176, 109144.	5.8	5
10	Microbial Production of Biodegradable Lactate-Based Polymers and Oligomeric Building Blocks From Renewable and Waste Resources. Frontiers in Bioengineering and Biotechnology, 2020, 8, 618077.	4.1	34
11	Bioconversion of biphenyl to a polyhydroxyalkanoate copolymer by Alcaligenes denitrificans A41. AMB Express, 2020, 10, 155.	3.0	10
12	Microbial Secretion Platform for 3â€Hydroxybutyrate Oligomer and Its Endâ€Capped Forms Using Chain Transfer Reactionâ€Mediated Polyhydroxyalkanoate Synthases. Biotechnology Journal, 2019, 14, 1900201.	3.5	10
13	Ribulose-1,5-bisphosphate carboxylase/oxygenase (RuBisCO)-mediated de novo synthesis of glycolate-based polyhydroxyalkanoate in Escherichia coli. Journal of Bioscience and Bioengineering, 2019, 128, 302-306.	2.2	12
14	Microbial Production and Properties of LA-based Polymers and Oligomers from Renewable Feedstock. Biofuels and Biorefineries, 2019, , 361-390.	0.5	6
15	Synthesis of Polyesters III: Acyltransferase as Catalyst. Green Chemistry and Sustainable Technology, 2019, , 199-231.	0.7	2
16	Biosynthesis of novel lactate-based polymers containing medium-chain-length 3-hydroxyalkanoates by recombinant Escherichia coli strains from glucose. Journal of Bioscience and Bioengineering, 2019, 128, 191-197.	2.2	10
17	Enhancement of lactate fraction in poly(lactate-co-3-hydroxybutyrate) synthesized by Escherichia coli harboring the D-lactate dehydrogenase gene from Lactobacillus acetotolerans HT. Journal of General and Applied Microbiology, 2019, 65, 204-208.	0.7	10
18	High-cell density culture of poly(lactate-co-3-hydroxybutyrate)-producing Escherichia coli by using glucose/xylose-switching fed-batch jar fermentation. Journal of Bioscience and Bioengineering, 2019, 127, 721-725.	2.2	20

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19	PHA synthase (PhaC): interpreting the functions of bioplastic-producing enzyme from a structural perspective. Applied Microbiology and Biotechnology, 2019, 103, 1131-1141.	3.6	43
20	Enhanced production of lactate-based polyesters in Escherichia coli from a mixture of glucose and xylose by Mlc-mediated catabolite derepression. Journal of Bioscience and Bioengineering, 2018, 125, 365-370.	2.2	8
21	In Vitro Analysis of <scp>d</scp>-Lactyl-CoA-Polymerizing Polyhydroxyalkanoate Synthase in Polylactate and Poly(lactate-co-3-hydroxybutyrate) Syntheses. Biomacromolecules, 2018, 19, 2889-2895.	5.4	18
22	Dynamic Changes of Intracellular Monomer Levels Regulate Block Sequence of Polyhydroxyalkanoates in Engineered Escherichia coli. Biomacromolecules, 2018, 19, 662-671.	5.4	27
23	Site-directed saturation mutagenesis of polyhydroxylalkanoate synthase for efficient microbial production of poly[(R)-2-hydroxybutyrate]. Journal of Bioscience and Bioengineering, 2018, 125, 632-636.	2.2	9
24	Microbial Secretion System of Lactate-Based Oligomers and Its Application. ACS Symposium Series, 2018, , 41-60.	0.5	2
25	Crystal structure and kinetic analyses of a hexameric form of (S)-3-hydroxybutyryl-CoA dehydrogenase fromClostridium acetobutylicum. Acta Crystallographica Section F, Structural Biology Communications, 2018, 74, 733-740.	0.8	4
26	Microbial Secretion of D-Lactate-Based Oligomers. ACS Sustainable Chemistry and Engineering, 2017, 5, 2360-2367.	6.7	24
27	Genome-wide screening of transcription factor deletion targets in Escherichia coli for enhanced production of lactate-based polyesters. Journal of Bioscience and Bioengineering, 2017, 123, 535-539.	2.2	7
28	Microbial secretion of lactate-enriched oligomers for efficient conversion into lactide: A biological shortcut to polylactide. Journal of Bioscience and Bioengineering, 2017, 124, 204-208.	2.2	14
29	Effect of monomeric composition on the thermal, mechanical and crystalline properties of poly[(R)-lactate-co-(R)-3-hydroxybutyrate]. Polymer, 2017, 122, 169-173.	3.8	16
30	Effect of acetate as a co-feedstock on the production of poly(lactate-co-3-hydroxyalkanoate) by pflA-deficient Escherichia coli RSC10. Journal of Bioscience and Bioengineering, 2017, 123, 547-554.	2.2	10
31	In vivo target exploration of apidaecin based on Acquired Resistance induced by Gene Overexpression (ARGO assay). Scientific Reports, 2017, 7, 12136.	3.3	14
32	Investigation of the Escherichia coli membrane transporters involved in the secretion of d-lactate-based oligomers by loss-of-function screening. Journal of Bioscience and Bioengineering, 2017, 124, 635-640.	2.2	11
33	Synthesis of lactate (LA)-based poly(ester-urethane) using hydroxyl-terminated LA-based oligomers from a microbial secretion system. Journal of Polymer Research, 2017, 24, 1.	2.4	13
34	Designer enzyme for green materials innovation: Lactate-polymerizing enzyme as a key catalyst. Frontiers of Chemical Science and Engineering, 2017, 11, 139-142.	4.4	6
35	Incorporation of Glycolate Units Promotes Hydrolytic Degradation in Flexible Poly(glycolate-co-3-hydroxybutyrate) Synthesized by Engineered Escherichia coli. ACS Biomaterials Science and Engineering, 2017, 3, 3058-3063.	5.2	15
36	Sucrose supplementation suppressed the growth inhibition in polyhydroxyalkanoate-producing plants. Plant Biotechnology, 2017, 34, 39-43.	1.0	2

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37	Consolidated bioprocessing of poly(lactate-co-3-hydroxybutyrate) from xylan as a sole feedstock by genetically-engineered Escherichia coli. Journal of Bioscience and Bioengineering, 2016, 122, 406-414.	2.2	23
38	InÂvitro synthesis of polyhydroxyalkanoates using thermostable acetyl-CoA synthetase, CoA transferase, and PHA synthase from thermotorelant bacteria. Journal of Bioscience and Bioengineering, 2016, 122, 660-665.	2.2	25
39	Microbial production of poly(lactate-co-3-hydroxybutyrate) from hybrid Miscanthus-derived sugars. Bioscience, Biotechnology and Biochemistry, 2016, 80, 818-820.	1.3	11
40	MtgA Deletion-Triggered Cell Enlargement of Escherichia coli for Enhanced Intracellular Polyester Accumulation. PLoS ONE, 2015, 10, e0125163.	2.5	19
41	Biosynthesis, Properties, and Biodegradation of Lactate-Based Polymers. ACS Symposium Series, 2015, , 113-131.	0.5	3
42	Indirect positive effects of a sigma factor RpoN deletion on the lactate-based polymer production inEscherichia coli. Bioengineered, 2015, 6, 307-311.	3.2	24
43	Molecular weight-dependent degradation of d-lactate-containing polyesters by polyhydroxyalkanoate depolymerases from Variovorax sp. C34 and Alcaligenes faecalis T1. Applied Microbiology and Biotechnology, 2015, 99, 9555-9563.	3.6	12
44	Advances and needs for endotoxin-free production strains. Applied Microbiology and Biotechnology, 2015, 99, 9349-9360.	3.6	26
45	Enhanced cellular content and lactate fraction of the poly(lactate-co-3-hydroxybutyrate) polyester produced in recombinant Escherichia coli by the deletion of Ïƒ factor RpoN. Journal of Bioscience and Bioengineering, 2015, 119, 427-429.	2.2	9
46	Improved production of poly(lactic acid)-like polyester based on metabolite analysis to address the rate-limiting step. AMB Express, 2014, 4, 83.	3.0	22
47	Structures of AzrA and of AzrC complexed with substrate or inhibitor: insight into substrate specificity and catalytic mechanism. Acta Crystallographica Section D: Biological Crystallography, 2014, 70, 553-564.	2.5	21
48	Biosynthetic polyesters consisting of 2-hydroxyalkanoic acids: current challenges and unresolved questions. Applied Microbiology and Biotechnology, 2013, 97, 8011-8021.	3.6	38
49	One-Pot Microbial Production, Mechanical Properties, and Enzymatic Degradation of Isotactic P[(R)-2-hydroxybutyrate] and Its Copolymer with (R)-Lactate. Biomacromolecules, 2013, 14, 1913-1918.	5.4	37
50	Microbial Plastic Factory: Synthesis and Properties of the New Lactate-Based Biopolymers. ACS Symposium Series, 2013, , 175-197.	0.5	2
51	Biological Lactate-Polymers Synthesized by One-Pot Microbial Factory: Enzyme and Metabolic Engineering. ACS Symposium Series, 2012, , 213-235.	0.5	8
52	Engineered Corynebacterium glutamicum as an endotoxin-free platform strain for lactate-based polyester production. Applied Microbiology and Biotechnology, 2012, 93, 1917-1925.	3.6	85
53	Biosynthesis of glycolate-based polyesters containing medium-chain-length 3-hydroxyalkanoates in recombinant Escherichia coli expressing engineered polyhydroxyalkanoate synthase. Journal of Biotechnology, 2011, 156, 214-217.	3.8	46
54	Lactate fraction dependent mechanical properties of semitransparent poly(lactate-co-3-hydroxybutyrate)s produced by control of lactyl-CoA monomer fluxes in recombinant Escherichia coli. Journal of Biotechnology, 2011, 154, 255-260.	3.8	58

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55	Quick and efficient method for genetic transformation of biopolymerâ€producing bacteria. Journal of Chemical Technology and Biotechnology, 2010, 85, 775-778.	3.2	16
56	Targeted Engineering of the Antibacterial Peptide Apidaecin, Based on an In Vivo Monitoring Assay System. Applied and Environmental Microbiology, 2009, 75, 1460-1464.	3.1	16
57	Kinetic Analysis of Engineered Polyhydroxyalkanoate Synthases with Broad Substrate Specificity. Polymer Journal, 2009, 41, 237-240.	2.7	14
58	Microbial Production of Lactate-Enriched Poly[(R)-lactate-co-(R)-3-hydroxybutyrate] with Novel Thermal Properties. Biomacromolecules, 2009, 10, 677-681.	5.4	83
59	Chimeric Enzyme Composed of Polyhydroxyalkanoate (PHA) Synthases from Ralstonia eutropha and Aeromonas caviae Enhances Production of PHAs in Recombinant Escherichia coli. Biomacromolecules, 2009, 10, 682-685.	5.4	43
60	A microbial factory for lactate-based polyesters using a lactate-polymerizing enzyme. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17323-17327.	7.1	261
61	PHA synthase engineering toward superbiocatalysts for custom-made biopolymers. Applied Microbiology and Biotechnology, 2007, 73, 969-979.	3.6	118
62	Synthesis of Short-chain-length/Medium-chain-length Polyhydroxyalkanoate (PHA) Copolymers in Peroxisome of the Transgenic Arabidopsis Thaliana Harboring the PHA Synthase Gene from Pseudomonas sp. 61-3. Journal of Polymers and the Environment, 2006, 14, 369-374.	5.0	26
63	An extra large insertion in the polyhydroxyalkanoate synthase fromDelftia acidovoransDS-17: its deletion effects and relation to cellular proteolysis. FEMS Microbiology Letters, 2004, 231, 77-83.	1.8	19
64	Evolution of Polyhydroxyalkanoate (PHA) Production System by â€œEnzyme Evolutionâ€: Successful Case Studies of Directed Evolution. Macromolecular Bioscience, 2004, 4, 145-156.	4.1	137
65	Alteration of Substrate Chain-Length Specificity of Type II Synthase for Polyhydroxyalkanoate Biosynthesis by in Vitro Evolution:Â in Vivo and in Vitro Enzyme Assays. Biomacromolecules, 2004, 5, 480-485.	5.4	108
66	Enhanced Synthesis of Poly(3-hydroxybutyrate) in Recombinant Escherichia coli by Means of Error-Prone PCR Mutagenesis, Saturation Mutagenesis, and In Vitro Recombination of the Type II Polyhydroxyalkanoate Synthase Gene. Journal of Biochemistry, 2003, 133, 139-145.	1.7	119