Kodai Watanabe

List of Publications by Year
in descending order

109 papers	3,055 citations	159358 30 h-index	205818 48 g-index
109 all docs	109 docs citations	109 times ranked	3142 citing authors

#	Article	IF	Citations
1	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.	3.3	261
2	Structure of bacterial cellulose synthase subunit D octamer with four inner passageways. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17957-17961.	3.3	118
3	Enhanced dispersion stability of gold nanoparticles by the physisorption of cyclic poly(ethylene) Tj ETQq1 1 0.784314 rgBT /Overlock 10	5.8	105
4	Synthesis of Linear, Cyclic, Figure-Eight-Shaped, and Tadpole-Shaped Amphiphilic Block Copolyethers via <i>t</i>-Bu-P₄-Catalyzed Ring-Opening Polymerization of Hydrophilic and Hydrophobic Glycidyl Ethers. Macromolecules, 2014, 47, 2853-2863.	2.2	75
5	Engineering of l-tyrosine oxidation in Escherichia coli and microbial production of hydroxytyrosol. Metabolic Engineering, 2012, 14, 603-610.	3.6	74
6	Characterization of an Alginate Lyase, FlAlyA, from Flavobacterium sp. Strain UMI-01 and Its Expression in Escherichia coli. Marine Drugs, 2014, 12, 4693-4712.	2.2	72
7	Cellulose complementing factor (Ccp) is a new member of the cellulose synthase complex (terminal) Tj ETQq1 1 0.784314 rgBT /Overlo	1.1	71
8	NMR characterization of sodium carboxymethyl cellulose: Substituent distribution and mole fraction of monomers in the polymer chains. Carbohydrate Polymers, 2016, 146, 1-9.	5.1	64
9	Application of cross-linked salmon atelocollagen to the scaffold of human periodontal ligament cells. Journal of Bioscience and Bioengineering, 2004, 97, 389-394.	1.1	63
10	Alkali Metal Carboxylate as an Efficient and Simple Catalyst for Ring-Opening Polymerization of Cyclic Esters. Macromolecules, 2018, 51, 689-696.	2.2	61
11	Cloning of Cellulose Synthesis Related Genes from Acetobacter xylinum ATCC23769 and ATCC53582: Comparison of Cellulose Synthetic Ability Between Strains. DNA Research, 2002, 9, 149-156.	1.5	59
12	Organophosphate-catalyzed bulk ring-opening polymerization as an environmentally benign route leading to block copolyesters, end-functionalized polyesters, and polyester-based polyurethane. Polymer Chemistry, 2015, 6, 4374-4384.	1.9	53
13	One-step production of nanofibrillated bacterial cellulose (NFBC) from waste glycerol using Gluconacetobacter intermedius NEDO-01. Cellulose, 2013, 20, 2971-2979.	2.4	50
14	Engineering of a Tyrosol-Producing Pathway, Utilizing Simple Sugar and the Central Metabolic Tyrosine, in Escherichia coli. Journal of Agricultural and Food Chemistry, 2012, 60, 979-984.	2.4	49
15	Structural characterization of the Acetobacter xylinum endo-Î²-1,4-glucanase CMCax required for cellulose biosynthesis. Proteins: Structure, Function and Bioinformatics, 2006, 64, 1069-1077.	1.5	47
16	Stereoblock-like Brush Copolymers Consisting of Poly(<scp>l</scp>-lactide) and Poly(<scp>d</scp>-lactide) Side Chains along Poly(norbornene) Backbone: Synthesis, Stereocomplex Formation, and Structureâ€“Property Relationship. Macromolecules, 2014, 47, 7118-7128.	2.2	46
17	In Vivo Curdlan/Cellulose Bionanocomposite Synthesis by Genetically Modified <i>Gluconacetobacter xylinus</i>. Biomacromolecules, 2015, 16, 3154-3160.	2.6	45
18	Synthesis of Well-Defined Three- and Four-Armed Cage-Shaped Polymers via â€œTopological Conversionâ€• from Trefoil- and Quatrefoil-Shaped Polymers. Macromolecules, 2017, 50, 97-106.	2.2	43

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19	The production of a new water-soluble polysaccharide by Acetobacter xylinum NCI 1005 and its structural analysis by NMR spectroscopy. Carbohydrate Research, 1997, 305, 117-122.	1.1	42
20	Effects of endogenous endo-Î²-1,4-glucanase on cellulose biosynthesis in Acetobacter xylinum ATCC23769. Journal of Bioscience and Bioengineering, 2002, 94, 275-281.	1.1	42
21	Chemo-enzymatic synthesis of polyhydroxyalkanoate (PHA) incorporating 2-hydroxybutyrate by wild-type class I PHA synthase from Ralstonia eutropha. Applied Microbiology and Biotechnology, 2011, 92, 509-517.	1.7	42
22	The c-di-GMP recognition mechanism of the PilZ domain of bacterial cellulose synthase subunit A. Biochemical and Biophysical Research Communications, 2013, 431, 802-807.	1.0	42
23	Bacterial cellulose gels with high mechanical strength. Materials Science and Engineering C, 2015, 47, 57-62.	3.8	42
24	Stretchable OFET Memories: Tuning the Morphology and the Charge-Trapping Ability of Conjugated Block Copolymers through Soft Segment Branching. ACS Applied Materials & Interfaces, 2021, 13, 2932-2943.	4.0	42
25	Chemo-Enzymatic Synthesis of Poly(lactate-<i>co</i>-(3-hydroxybutyrate)) by a Lactate-Polymerizing Enzyme. Macromolecules, 2009, 42, 1985-1989.	2.2	40
26	Controlled/Living Ring-Opening Polymerization of Glycidylamine Derivatives Using <i>t</i>-Bu-P₄/Alcohol Initiating System Leading to Polyethers with Pendant Primary, Secondary, and Tertiary Amino Groups. Macromolecules, 2015, 48, 3217-3229.	2.2	40
27	Synthesis of Well-Defined Amphiphilic Star-Block and Miktoarm Star Copolyethers via <i>t</i>-Bu-P₄-Catalyzed Ring-Opening Polymerization of Glycidyl Ethers. Macromolecules, 2016, 49, 499-509.	2.2	39
28	In vitro growth and differentiated activities of human periodontal ligament fibroblasts cultured on salmon collagen gel. Journal of Biomedical Materials Research - Part A, 2007, 82A, 395-402.	2.1	38
29	Cellulose production by Enterobacter sp. CJF-002 and identification of genes for cellulose biosynthesis. Cellulose, 2012, 19, 1989-2001.	2.4	35
30	Facile and Efficient Modification of Polystyrene-<i>block</i>-poly(methyl methacrylate) for Achieving Sub-10 nm Feature Size. Macromolecules, 2018, 51, 8064-8072.	2.2	35
31	Multicyclic Polymer Synthesis through Controlled/Living Cyclopolymerization of Î±,Ï‰-Dinorbornenyl-Functionalized Macromonomers. Macromolecules, 2018, 51, 3855-3864.	2.2	33
32	Control over Molecular Architectures of Carbohydrate-Based Block Copolymers for Stretchable Electrical Memory Devices. Macromolecules, 2018, 51, 4966-4975.	2.2	32
33	Cloning and Sequencing of the Beta-glucosidase Gene from Acetobacter xylinum ATCC 23769. DNA Research, 2001, 8, 263-269.	1.5	31
34	A method of cell-sheet preparation using collagenase digestion of salmon atelocollagen fibrillar gel. Journal of Bioscience and Bioengineering, 2004, 98, 493-496.	1.1	29
35	Self-Assembly of Maltoheptaose-<i>block</i>-polycaprolactone Copolymers: Carbohydrate-Decorated Nanoparticles with Tunable Morphology and Size in Aqueous Media. Macromolecules, 2016, 49, 4178-4194.	2.2	29
36	One-Step Production of Amphiphilic Nanofibrillated Cellulose Using a Cellulose-Producing Bacterium. Biomacromolecules, 2017, 18, 3432-3438.	2.6	29

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37	Microphase separation of carbohydrate-based star-block copolymers with sub-10 nm periodicity. Polymer Chemistry, 2019, 10, 1119-1129.	1.9	29
38	Crystal structure of the flexible tandem repeat domain of bacterial cellulose synthesis subunit C. Scientific Reports, 2017, 7, 13018.	1.6	28
39	Unraveling the stress effects on the optical properties of stretchable rod-coil polyfluorene-poly(<i>n</i>-butyl acrylate) block copolymer thin films. Polymer Chemistry, 2018, 9, 3820-3831.	1.9	28
40	A versatile synthetic strategy for macromolecular cages: intramolecular consecutive cyclization of star-shaped polymers. Chemical Science, 2019, 10, 440-446.	3.7	28
41	Structural and rheological characterization of bacterial cellulose gels obtained from Gluconacetobacter genus. Food Hydrocolloids, 2019, 92, 233-239.	5.6	28
42	Structural analyses of new tri- and tetrasaccharides produced from disaccharides by transglycosylation of purified Trichoderma viride beta-glucosidase. Glycoconjugate Journal, 1999, 16, 415-423.	1.4	27
43	In vitro synthesis of polyhydroxyalkanoate (PHA) incorporating lactate (LA) with a block sequence by using a newly engineered thermostable PHA synthase from Pseudomonas sp. SG4502 with acquired LA-polymerizing activity. Applied Microbiology and Biotechnology, 2012, 94, 365-376.	1.7	27
44	Polyhydroxyalkanoate production by a novel bacterium Massilia sp. UMI-21 isolated from seaweed, and molecular cloning of its polyhydroxyalkanoate synthase gene. Journal of Bioscience and Bioengineering, 2014, 118, 514-519.	1.1	27
45	Structural and mechanical characterization of bacterial celluloseâ€“polyethylene glycol diacrylate composite gels. Carbohydrate Polymers, 2017, 173, 67-76.	5.1	27
46	Biodegradable Compatibilizers for Poly(hydroxyalkanoate)/Poly(Îµ-caprolactone) Blends through Click Reactions with End-Functionalized Microbial Poly(hydroxyalkanoate)s. ACS Sustainable Chemistry and Engineering, 2019, 7, 7969-7978.	3.2	27
47	Regulation of endoglucanase gene (cmcax) expression in Acetobacter xylinum. Journal of Bioscience and Bioengineering, 2008, 106, 88-94.	1.1	25
48	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.	1.1	25
49	Chain-End Functionalization with a Saccharide for 10 nm Microphase Separation: â€œClassicalâ€• PS-<i>b</i>-PMMA versus PS-<i>b</i>-PMMA-Saccharide. Macromolecules, 2018, 51, 8870-8877.	2.2	25
50	Nanofibrillated Bacterial Cellulose Surface Modified with Methyltrimethoxysilane for Fiber-Reinforced Composites. ACS Applied Nano Materials, 2020, 3, 8232-8241.	2.4	25
51	Unusual change in molecular weight of polyhydroxyalkanoate (PHA) during cultivation of PHA-accumulating Escherichia coli. Polymer Degradation and Stability, 2010, 95, 2250-2254.	2.7	24
52	Carbohydrates as Hard Segments for Sustainable Elastomers: Carbohydrates Direct the Self-Assembly and Mechanical Properties of Fully Bio-Based Block Copolymers. Macromolecules, 2020, 53, 5408-5417.	2.2	24
53	Isolation of a thermotolerant bacterium producing medium-chain-length polyhydroxyalkanoate. Journal of Applied Microbiology, 2011, 111, 811-817.	1.4	23
54	Intramolecular olefin metathesis as a robust tool to synthesize single-chain nanoparticles in a size-controlled manner. Polymer Chemistry, 2016, 7, 4782-4792.	1.9	23

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55	Highly Ordered Cylinder Morphologies with 10 nm Scale Periodicity in Biomass-Based Block Copolymers. Macromolecules, 2018, 51, 428-437.	2.2	23
56	NMR characterization of sodium carboxymethyl cellulose 2: Chemical shift assignment and conformation analysis of substituent groups. Carbohydrate Polymers, 2016, 150, 241-249.	5.1	21
57	Polyhydroxyalkanoate synthase from Bacillus sp. INT005 is composed of PhaC and PhaR. Journal of Bioscience and Bioengineering, 2002, 94, 343-50.	1.1	21
58	Enzymatic synthesis of poly(3-hydroxybutyrate-co-4-hydroxybutyrate) with CoA recycling using polyhydroxyalkanoate synthase and acyl-CoA synthetase. Journal of Bioscience and Bioengineering, 2005, 99, 508-511.	1.1	20
59	Development of a New Conversion Process Consisting of Hydrothermal Treatment and Catalytic Reaction Using ZrO2â€“FeO X Catalyst to Convert Fermentation Residue into Useful Chemicals. Topics in Catalysis, 2010, 53, 654-658.	1.3	20
60	NMR characterization of methylcellulose: Chemical shift assignment and mole fraction of monomers in the polymer chains. Carbohydrate Polymers, 2017, 157, 728-738.	5.1	19
61	Rapid access to discrete and monodisperse block co-oligomers from sugar and terpenoid toward ultrasmall periodic nanostructures. Communications Chemistry, 2020, 3, .	2.0	19
62	Chemoenzymatic Synthesis of Poly(3-hydroxybutyrate) in a Water-Organic Solvent Two-Phase System. Macromolecules, 2004, 37, 4544-4546.	2.2	17
63	Synthesis, Isolation, and Properties of All Head-to-Tail Cyclic Poly(3-hexylthiophene): Fully Delocalized Exciton over the Defect-Free Ring Polymer. Macromolecules, 2018, 51, 9284-9293.	2.2	17
64	Cloning and Sequencing of the Levansucrase Gene from Acetobacter xylinum NCI 1005. DNA Research, 2000, 7, 237-242.	1.5	16
65	Nanofibrillated Bacterial Cellulose Modified with (3-Aminopropyl)trimethoxysilane under Aqueous Conditions: Applications to Poly(methyl methacrylate) Fiber-Reinforced Nanocomposites. ACS Omega, 2020, 5, 29561-29569.	1.6	16
66	Cellulose-synthesizing machinery in bacteria. Cellulose, 2022, 29, 2755-2777.	2.4	16
67	Chemo-enzymatic synthesis of polyhydroxyalkanoate by an improved two-phase reaction system (TPRS). Journal of Bioscience and Bioengineering, 2009, 108, 517-523.	1.1	15
68	Nonvolatile and Shape-Memorized Bacterial Cellulose Gels Swollen by Poly(ethylene glycol). Polymer Journal, 2009, 41, 524-525.	1.3	15
69	A facile strategy for manipulating micellar size and morphology through intramolecular cross-linking of amphiphilic block copolymers. Polymer Chemistry, 2017, 8, 3647-3656.	1.9	15
70	Facile synthesis of poly(trimethylene carbonate) by alkali metal carboxylate-catalyzed ring-opening polymerization. Polymer Journal, 2020, 52, 103-110.	1.3	15
71	Suzukiâ€“Miyaura catalyst-transfer polycondensation of triolborate-type fluorene monomer: toward rapid access to polyfluorene-containing block and graft copolymers from various macroinitiators. Polymer Chemistry, 2020, 11, 6832-6839.	1.9	15
72	Kinetic Analysis of Engineered Polyhydroxyalkanoate Synthases with Broad Substrate Specificity. Polymer Journal, 2009, 41, 237-240.	1.3	14

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73	Downsizing feature of microphase-separated structures <i>via</i> intramolecular crosslinking of block copolymers. Chemical Science, 2019, 10, 3330-3339.	3.7	14
74	Programmed folding into spiro-multicyclic polymer topologies from linear and star-shaped chains. Communications Chemistry, 2020, 3, .	2.0	13
75	Therapeutic efficacy of a paclitaxel-loaded nanofibrillated bacterial cellulose (PTX/NFBC) formulation in a peritoneally disseminated gastric cancer xenograft model. International Journal of Biological Macromolecules, 2021, 174, 494-501.	3.6	13
76	Oneâ€Shot Intrablock Crossâ€Linking of Linear Diblock Copolymer to Realize Janusâ€Shaped Singleâ€Chain Nanoparticles. Angewandte Chemie - International Edition, 2021, 60, 18122-18128.	7.2	13
77	Trimethyl Glycine as an Environmentally Benign and Biocompatible Organocatalyst for Ring-Opening Polymerization of Cyclic Carbonate. ACS Sustainable Chemistry and Engineering, 2019, 7, 8868-8875.	3.2	12
78	Facile Post-Carboxymethylation of Cellulose Nanofiber Surfaces for Enhanced Water Dispersibility. ACS Omega, 2021, 6, 34107-34114.	1.6	12
79	characterization of d-LA homo-oligomer degradation by the isolated strains. Polymer Degradation and Stability, 2020, 179, 109231.	2.7	11
80	Metallopolymer-<i>block</i>-oligosaccharide for sub-10 nm microphase separation. Polymer Chemistry, 2020, 11, 2995-3002.	1.9	11
81	Isolation and Characterization of Bacillus sp. INT005 Accumulating Polyhydroxyalkanoate (PHA) from Gas Field Soil.. Journal of Bioscience and Bioengineering, 2003, 95, 77-81.	1.1	11
82	Biofabrication of a Hyaluronan/Bacterial Cellulose Composite Nanofibril by Secretion from Engineered<i>Gluconacetobacter</i>. Biomacromolecules, 2021, 22, 4709-4719.	2.6	11
83	Reinforcing Poly(methyl methacrylate) with Bacterial Cellulose Nanofibers Chemically Modified with Methacryolyl Groups. Nanomaterials, 2022, 12, 537.	1.9	10
84	Detailed Structural Analyses of Nanofibrillated Bacterial Cellulose and Its Application as Binder Material for a Display Device. Biomacromolecules, 2020, 21, 581-588.	2.6	9
85	PEGylation of silver nanoparticles by physisorption of cyclic poly(ethylene glycol) for enhanced dispersion stability, antimicrobial activity, and cytotoxicity. Nanoscale Advances, 2022, 4, 532-545.	2.2	9
86	Activities of MC3T3-E1 cells cultured on Î³-irradiated salmon atelocollagen scaffold. Journal of Bioscience and Bioengineering, 2006, 101, 511-514.	1.1	8
87	Advanced functionalization of polyhydroxyalkanoate via the UV-initiated thiol-ene click reaction. Applied Microbiology and Biotechnology, 2016, 100, 4375-4383.	1.7	8
88	Highly asymmetric lamellar nanostructures from nanoparticleâ€“linear hybrid block copolymers. Nanoscale, 2020, 12, 16526-16534.	2.8	8
89	Sweet Pluronic poly(propylene oxide)-b-oligosaccharide block copolymer systems: Toward sub-4Ânm thin-film nanopattern resolution. European Polymer Journal, 2020, 134, 109831.	2.6	8
90	Enhanced Self-Assembly and Mechanical Properties of Cellulose-Based Triblock Copolymers: Comparisons with Amylose-Based Triblock Copolymers. ACS Sustainable Chemistry and Engineering, 2021, 9, 9779-9788.	3.2	8

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91	Molecular Dynamics Simulation of Cellulose Synthase Subunit D Octamer with Cellulose Chains from Acetic Acid Bacteria: Insight into Dynamic Behaviors and Thermodynamics on Substrate Recognition. Journal of Chemical Theory and Computation, 2021, 17, 488-496.	2.3	8
92	Synthesis of Î¼-ABC Tricyclic Miktoarm Star Polymer via Intramolecular Click Cyclization. Polymers, 2018, 10, 877.	2.0	6
93	Synthesis of Poly(3-hydroxybutyrate) by Immobilized Poly(3-hydroxybutyrate) Synthase. Polymer Journal, 2003, 35, 407-410.	1.3	5
94	Crystallization and preliminary crystallographic analysis of the cellulose biosynthesis-related protein CMCax fromAcetobacter xylinum. Acta Crystallographica Section F: Structural Biology Communications, 2005, 61, 252-254.	0.7	5
95	Installing a functional group into the inactive Ï‰-chain end of PMMA and PS-<i>b</i>-PMMA by terminal-selective transesterification. Polymer Chemistry, 2019, 10, 3390-3398.	1.9	5
96	Doxorubicin Embedded into Nanofibrillated Bacterial Cellulose (NFBC) Produces a Promising Therapeutic Outcome for Peritoneally Metastatic Gastric Cancer in Mice Models via Intraperitoneal Direct Injection. Nanomaterials, 2021, 11, 1697.	1.9	5
97	Densely Arrayed Cage-Shaped Polymer Topologies Synthesized via Cyclopolymerization of Star-Shaped Macromonomers. Macromolecules, 2021, 54, 9079-9090.	2.2	5
98	Purification, Crystallization and Preliminary X-Ray Studies of AxCesD Required for Efficient Cellulose Biosynthesis in Acetobacter xylinum. Protein and Peptide Letters, 2008, 15, 115-117.	0.4	4
99	Cyclization of PEG and Pluronic Surfactants and the Effects of the Topology on Their Interfacial Activity. Langmuir, 2021, 37, 6974-6984.	1.6	4
100	Oneâ€Shot Intrablock Crossâ€Linking of Linear Diblock Copolymer to Realize Janusâ€Shaped Singleâ€Chain Nanoparticles. Angewandte Chemie, 2021, 133, 18270-18276.	1.6	3
101	Suzukiâ€“Miyaura Catalyst-Transfer Polycondensation of Triolborate-Type Carbazole Monomers. Polymers, 2021, 13, 4168.	2.0	3
102	Physical characteristics and cell-adhesive properties of in vivo fabricated bacterial cellulose/hyaluronan nanocomposites. Cellulose, 2022, 29, 3239-3251.	2.4	3
103	Topology-Dependent Interaction of Cyclic Poly(ethylene glycol) Complexed with Gold Nanoparticles against Bovine Serum Albumin for a Colorimetric Change. Langmuir, 2021, , .	1.6	2
104	Topology and Sequence-Dependent Micellization and Phase Separation of Pluronic L35, L64, 10R5, and 17R4: Effects of Cyclization and the Chain Ends. Polymers, 2022, 14, 1823.	2.0	2
105	Fabrication of Ultrafine, Highly Ordered Nanostructures Using Carbohydrate-Inorganic Hybrid Block Copolymers. Nanomaterials, 2022, 12, 1653.	1.9	2
106	Mechanical properties of a bacterial cellulose/polyethylene glycol gel with a peripheral region crosslinked by polyethylene glycol diacrylate. Polymer Journal, 2016, 48, 317-321.	1.3	1
107	Enhancement of Bacterial Cellulose Productivity and Preparation of Branched Polysaccharide-Bacterial Cellulose Composite by Co-cultivation of Acetobacter Species.. Journal of Fiber Science and Technology, 1995, 51, 323-332.	0.0	1
108	Synthesis of two waterâ€soluble polysaccharides by <i>Acetobacter</i> sp. NCI 1005. Macromolecular Symposia, 1997, 120, 19-28.	0.4	0

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109	Structural snapshot of a glycoside hydrolase family 8 endo-Î²-1,4-glucanase capturing the state after cleavage of the scissile bond. Acta Crystallographica Section D: Structural Biology, 2022, 78, 228-237.	1.1	0