Keiji Numata

List of Publications by Year
in descending order

206 papers	8,221 citations	46984 47 h-index	64755 79 g-index
222 all docs	222 docs citations	222 times ranked	8203 citing authors

#	Article	IF	Citations
1	Biopolymer-Based Nanoparticles for Drug/Gene Delivery and Tissue Engineering. International Journal of Molecular Sciences, 2013, 14, 1629-1654.	1.8	552
2	The Biomedical Use of Silk: Past, Present, Future. Advanced Healthcare Materials, 2019, 8, e1800465.	3.9	522
3	Silk-based delivery systems of bioactive molecules. Advanced Drug Delivery Reviews, 2010, 62, 1497-1508.	6.6	324
4	Mechanism of enzymatic degradation of beta-sheet crystals. Biomaterials, 2010, 31, 2926-2933.	5.7	227
5	Influence of Water Content on the Î²-Sheet Formation, Thermal Stability, Water Removal, and Mechanical Properties of Silk Materials. Biomacromolecules, 2016, 17, 1057-1066.	2.6	148
6	Relationships between physical properties and sequence in silkworm silks. Scientific Reports, 2016, 6, 27573.	1.6	140
7	Local gene silencing in plants via synthetic ds<scp>RNA</scp> and carrier peptide. Plant Biotechnology Journal, 2014, 12, 1027-1034.	4.1	129
8	Branched Poly(lactide) Synthesized by Enzymatic Polymerization:â€‰ Effects of Molecular Branches and Stereochemistry on Enzymatic Degradation and Alkaline Hydrolysis. Biomacromolecules, 2007, 8, 3115-3125.	2.6	123
9	Bioengineered silk protein-based gene delivery systems. Biomaterials, 2009, 30, 5775-5784.	5.7	118
10	Expression, Cross-Linking, and Characterization of Recombinant Chitin Binding Resilin. Biomacromolecules, 2009, 10, 3227-3234.	2.6	118
11	Raman image-activated cell sorting. Nature Communications, 2020, 11, 3452.	5.8	116
12	State of Water, Molecular Structure, and Cytotoxicity of Silk Hydrogels. Biomacromolecules, 2011, 12, 2137-2144.	2.6	113
13	Increased Bioplastic Production with an RNA Polymerase Sigma Factor SigE during Nitrogen Starvation in Synechocystis sp. PCC 6803. DNA Research, 2013, 20, 525-535.	1.5	113
14	Understanding the Limitations in the Biosynthesis of Polyhydroxyalkanoate (PHA) from Lignin Derivatives. ACS Sustainable Chemistry and Engineering, 2014, 2, 1106-1113.	3.2	112
15	Reinforcing Silk Scaffolds with Silk Particles. Macromolecular Bioscience, 2010, 10, 599-611.	2.1	109
16	Rapid and Efficient Gene Delivery into Plant Cells Using Designed Peptide Carriers. Biomacromolecules, 2013, 14, 10-16.	2.6	94
17	Spider Silk-Based Gene Carriers for Tumor Cell-Specific Delivery. Bioconjugate Chemistry, 2011, 22, 1605-1610.	1.8	93
18	Poly(amino acid)s/polypeptides as potential functional and structural materials. Polymer Journal, 2015, 47, 537-545.	1.3	92

#	Article	IF	Citations
19	Surface-patterned electrode bioreactor for electrical stimulation. Lab on A Chip, 2010, 10, 692.	3.1	91
20	Biocompatible and Biodegradable Dual-Drug Release System Based on Silk Hydrogel Containing Silk Nanoparticles. Biomacromolecules, 2012, 13, 1383-1389.	2.6	91
21	Gene delivery mediated by recombinant silk proteins containing cationic and cell binding motifs. Journal of Controlled Release, 2010, 146, 136-143.	4.8	90
22	Gene introduction into the mitochondria of Arabidopsis thaliana via peptide-based carriers. Scientific Reports, 2015, 5, 7751.	1.6	90
23	Recent Advances in Chemoenzymatic Peptide Syntheses. Molecules, 2014, 19, 13755-13774.	1.7	83
24	Spider silk self-assembly via modular liquid-liquid phase separation and nanofibrillation. Science Advances, 2020, 6, .	4.7	82
25	Biosynthesis and characterization of polyhydroxyalkanoate containing 5-hydroxyvalerate units: Effects of 5HV units on biodegradability, cytotoxicity, mechanical and thermal properties. Polymer Degradation and Stability, 2013, 98, 331-338.	2.7	77
26	Silk-Based Gene Carriers with Cell Membrane Destabilizing Peptides. Biomacromolecules, 2010, 11, 3189-3195.	2.6	76
27	Silkâ€Based Nanocomplexes with Tumorâ€Homing Peptides for Tumorâ€Specific Gene Delivery. Macromolecular Bioscience, 2012, 12, 75-82.	2.1	74
28	Hydroxyethyl cellulose matrix applied to serial crystallography. Scientific Reports, 2017, 7, 703.	1.6	74
29	Biodegradability of Poly(hydroxyalkanoate) Materials. Materials, 2009, 2, 1104-1126.	1.3	73
30	Pathway-Level Acceleration of Glycogen Catabolism by a Response Regulator in the Cyanobacterium <i>Synechocystis</i> Species PCC 6803 Â. Plant Physiology, 2014, 164, 1831-1841.	2.3	72
31	Synthesis of High-Molecular-Weight Polyhydroxyalkanoates by Marine Photosynthetic Purple Bacteria. PLoS ONE, 2016, 11, e0160981.	1.1	71
32	Integrating tough Antheraea pernyi silk and strong carbon fibres for impact-critical structural composites. Nature Communications, 2019, 10, 3786.	5.8	70
33	Biodegradability of nylon 4 film in a marine environment. Polymer Degradation and Stability, 2013, 98, 1847-1851.	2.7	67
34	Chemoenzymatic Synthesis of Poly(<scp>l</scp>-alanine) in Aqueous Environment. Biomacromolecules, 2012, 13, 947-951.	2.6	63
35	Screening of Marine Bacteria To Synthesize Polyhydroxyalkanoate from Lignin: Contribution of Lignin Derivatives to Biosynthesis by <i>Oceanimonas doudoroffii</i>. ACS Sustainable Chemistry and Engineering, 2015, 3, 569-573.	3.2	63
36	Selective Gene Delivery for Integrating Exogenous DNA into Plastid and Mitochondrial Genomes Using Peptideâ€"DNA Complexes. Biomacromolecules, 2018, 19, 1582-1591.	2.6	62

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37	Intracellular Delivery of Proteins via Fusion Peptides in Intact Plants. PLoS ONE, 2016, 11, e0154081.	1.1	62
38	Self-Assembled Peptide-Based System for Mitochondrial-Targeted Gene Delivery: Functional and Structural Insights. Biomacromolecules, 2016, 17, 3547-3557.	2.6	59
39	Analysis of repetitive amino acid motifs reveals the essential features of spider dragline silk proteins. PLoS ONE, 2017, 12, e0183397.	1.1	59
40	Biosynthesis of Polyhydroxyalkanoate (PHA) Copolymer from Fructose Using Wild-Type and Laboratory-Evolved PHA Synthases. Macromolecular Bioscience, 2005, 5, 112-117.	2.1	56
41	Synthesis of Adhesive Peptides Similar to Those Found in Blue Mussel (<i>Mytilus edulis</i>) Using Papain and Tyrosinase. Biomacromolecules, 2014, 15, 3206-3212.	2.6	56
42	Quantifying Osteogenic Cell Degradation of Silk Biomaterials. Biomacromolecules, 2010, 11, 3592-3599.	2.6	55
43	Conformation and dynamics of soluble repetitive domain elucidates the initial Î²-sheet formation of spider silk. Nature Communications, 2018, 9, 2121.	5.8	55
44	How to define and study structural proteins as biopolymer materials. Polymer Journal, 2020, 52, 1043-1056.	1.3	53
45	Modification of Î²-oxidation pathway in Ralstonia eutropha for production of poly(3-hydroxybutyrate-co-3-hydroxyhexanoate) from soybean oil. Journal of Bioscience and Bioengineering, 2014, 117, 184-190.	1.1	52
46	Library screening of cell-penetrating peptide for BY-2 cells, leaves of Arabidopsis, tobacco, tomato, poplar, and rice callus. Scientific Reports, 2018, 8, 10966.	1.6	52
47	Crystal structure and physical properties of Antheraea yamamai silk fibers: Long poly(alanine) sequences are partially in the crystalline region. Polymer, 2015, 77, 87-94.	1.8	51
48	Multicomponent nature underlies the extraordinary mechanical properties of spider dragline silk. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	51
49	Silkâ€Pectin Hydrogel with Superior Mechanical Properties, Biodegradability, and Biocompatibility. Macromolecular Bioscience, 2014, 14, 799-806.	2.1	50
50	Crystallization-induced mechanofluorescence for visualization of polymer crystallization. Nature Communications, 2021, 12, 126.	5.8	50
51	Liquid Crystalline Granules Align in a Hierarchical Structure To Produce Spider Dragline Microfibrils. Biomacromolecules, 2017, 18, 1350-1355.	2.6	49
52	Stimulus-Responsive Peptide for Effective Delivery and Release of DNA in Plants. Biomacromolecules, 2018, 19, 1154-1163.	2.6	49
53	Targeted Gene Delivery into Various Plastids Mediated by Clustered Cellâ€Penetrating and Chloroplastâ€Targeting Peptides. Advanced Science, 2019, 6, 1902064.	5.6	49
54	Mechanisms of Enzymatic Degradation of Amyloid Î² Microfibrils Generating Nanofilaments and Nanospheres Related to Cytotoxicity. Biochemistry, 2010, 49, 3254-3260.	1.2	48

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55	Short One-Pot Chemo-Enzymatic Synthesis of <scp>l</scp>-Lysine and <scp>l</scp>-Alanine Diblock Co-Oligopeptides. Biomacromolecules, 2014, 15, 735-743.	2.6	47
56	Proteinase K-Catalyzed Synthesis of Linear and Star Oligo(<scp>l</scp>-phenylalanine) Conjugates. Biomacromolecules, 2013, 14, 3635-3642.	2.6	46
57	Oil-free hyaluronic acid matrix for serial femtosecond crystallography. Scientific Reports, 2016, 6, 24484.	1.6	46
58	Enzymatic Degradation Processes of Lamellar Crystals in Thin Films for Poly[(R)-3-hydroxybutyric acid] and Its Copolymers Revealed by Real-Time Atomic Force Microscopy. Biomacromolecules, 2004, 5, 2186-2194.	2.6	45
59	Enzymatic Degradation Processes of Poly[(R)-3-hydroxybutyric acid] and Poly[(R)-3-hydroxybutyric acid-co-(R)-3-hydroxyvaleric acid] Single Crystals Revealed by Atomic Force Microscopy:Â Effects of Molecular Weight and Second-Monomer Composition on Erosion Rates. Biomacromolecules, 2005, 6, 2008-2016.	2.6	44
60	Combination of Amorphous Silk Fiber Spinning and Postspinning Crystallization for Tough Regenerated Silk Fibers. Biomacromolecules, 2018, 19, 2227-2237.	2.6	44
61	Interplay between Silk Fibroinâ€™s Structure and Its Adhesive Properties. ACS Biomaterials Science and Engineering, 2018, 4, 2815-2824.	2.6	44
62	Chemoenzymatic Synthesis of Polypeptides for Use as Functional and Structural Materials. Macromolecular Bioscience, 2017, 17, 1700177.	2.1	43
63	Simultaneous effect of strain rate and humidity on the structure and mechanical behavior of spider silk. Communications Materials, 2020, 1, .	2.9	43
64	Enzymatic Degradation of Monolayer for Poly(lactide) Revealed by Real-Time Atomic Force Microscopy: Effects of Stereochemical Structure, Molecular Weight, and Molecular Branches on Hydrolysis Rates. Biomacromolecules, 2008, 9, 2180-2185.	2.6	41
65	Phasin Proteins Activate Aeromonas caviae Polyhydroxyalkanoate (PHA) Synthase but Not Ralstonia eutropha PHA Synthase. Applied and Environmental Microbiology, 2014, 80, 2867-2873.	1.4	41
66	Influence of Cross-Linking on the Physical Properties and Cytotoxicity of Polyhydroxyalkanoate (PHA) Scaffolds for Tissue Engineering. ACS Biomaterials Science and Engineering, 2015, 1, 567-576.	2.6	39
67	Chemoenzymatic synthesis of polypeptides containing the unnatural amino acid 2-aminoisobutyric acid. Chemical Communications, 2017, 53, 7318-7321.	2.2	39
68	Silk Resin with Hydrated Dual Chemical-Physical Cross-Links Achieves High Strength and Toughness. Biomacromolecules, 2017, 18, 1937-1946.	2.6	38
69	Block Copolymer/Plasmid DNA Micelles Postmodified with Functional Peptides via Thiolâ€“Maleimide Conjugation for Efficient Gene Delivery into Plants. Biomacromolecules, 2019, 20, 653-661.	2.6	38
70	Influence of Hydroxyl Groups on the Cell Viability of Polyhydroxyalkanoate (PHA) Scaffolds for Tissue Engineering. ACS Biomaterials Science and Engineering, 2017, 3, 3064-3075.	2.6	37
71	3,4-Dihydroxyphenylalanine (DOPA)-Containing Silk Fibroin: Its Enzymatic Synthesis and Adhesion Properties. ACS Biomaterials Science and Engineering, 2019, 5, 5644-5651.	2.6	36
72	Biosynthesis of Polyhydroxyalkanaotes by a Novel Facultatively Anaerobic Vibrio sp. under Marine Conditions. Marine Biotechnology, 2012, 14, 323-331.	1.1	35

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73	Use of extension-deformation-based crystallisation of silk fibres to differentiate their functions in nature. Soft Matter, 2015, 11, 6335-6342.	1.2	34
74	Molecular Interactions and Toughening Mechanisms in Silk Fibroinâ€“Epoxy Resin Blend Films. Biomacromolecules, 2019, 20, 2295-2304.	2.6	34
75	AFM Study of Morphology and Mechanical Properties of a Chimeric Spider Silk and Bone Sialoprotein Protein for Bone Regeneration. Biomacromolecules, 2011, 12, 1675-1685.	2.6	33
76	The Benzyl Ester Group of Amino Acid Monomers Enhances Substrate Affinity and Broadens the Substrate Specificity of the Enzyme Catalyst in Chemoenzymatic Copolymerization. Biomacromolecules, 2016, 17, 314-323.	2.6	33
77	Chemical Synthesis of Multiblock Copolypeptides Inspired by Spider Dragline Silk Proteins. ACS Macro Letters, 2017, 6, 103-106.	2.3	33
78	The bagworm genome reveals a unique fibroin gene that provides high tensile strength. Communications Biology, 2019, 2, 148.	2.0	33
79	Characterization of Site-Specific Mutations in a Short-Chain-Length/Medium-Chain-Length Polyhydroxyalkanoate Synthase: <i>In Vivo</i> and <i>In Vitro</i> Studies of Enzymatic Activity and Substrate Specificity. Applied and Environmental Microbiology, 2013, 79, 3813-3821.	1.4	32
80	Marine Purple Photosynthetic Bacteria as Sustainable Microbial Production Hosts. Frontiers in Bioengineering and Biotechnology, 2019, 7, 258.	2.0	32
81	Adsorption of Biopolyester Depolymerase on Silicon Wafer and Poly[(R)-3-hydroxybutyric acid] Single Crystal Revealed by Real-Time AFM. Macromolecular Bioscience, 2006, 6, 41-50.	2.1	31
82	Tensile Reinforcement of Silk Films by the Addition of Telechelic-Type Polyalanine. Biomacromolecules, 2017, 18, 1002-1009.	2.6	31
83	Enzymatic processes for biodegradation of poly(hydroxyalkanoate)s crystals. Canadian Journal of Chemistry, 2008, 86, 471-483.	0.6	28
84	Synthesis of poly- and oligo(hydroxyalkanoate)s by deep-sea bacteria, Colwellia spp., Moritella spp., and Shewanella spp. Polymer Journal, 2013, 45, 1094-1100.	1.3	28
85	Derivatization of Proteinase K with Heavy Atoms Enhances Its Thermal Stability. ACS Catalysis, 2016, 6, 3036-3046.	5.5	28
86	Enzyme-Mimic Peptide Assembly To Achieve Amidolytic Activity. Biomacromolecules, 2016, 17, 3375-3385.	2.6	28
87	Artificial Cell-Penetrating Peptide Containing Periodic Î±-Aminoisobutyric Acid with Long-Term Internalization Efficiency in Human and Plant Cells. ACS Biomaterials Science and Engineering, 2020, 6, 3287-3298.	2.6	28
88	Differences in Cytotoxicity of Î²â€Sheet Peptides Originated from Silk and Amyloid Î². Macromolecular Bioscience, 2011, 11, 60-64.	2.1	27
89	Native protein delivery into rice callus using ionic complexes of protein and cell-penetrating peptides. PLoS ONE, 2019, 14, e0214033.	1.1	27
90	Morphological and mechanical properties of flexible resilin joints on damselfly wings (Rhinocypha) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.1	27

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91	Non-transgenic Gene Modulation <i>via</i> Spray Delivery of Nucleic Acid/Peptide Complexes into Plant Nuclei and Chloroplasts. ACS Nano, 2022, 16, 3506-3521.	7.3	27
92	Endosome-escaping micelle complexes dually equipped with cell-penetrating and endosome-disrupting peptides for efficient DNA delivery into intact plants. Nanoscale, 2021, 13, 5679-5692.	2.8	26
93	Nonspecific Hydrophobic Interactions of a Repressor Protein, PhaR, with Poly[(R)-3-hydroxybutyrate] Film Studied with a Quartz Crystal Microbalance. Biomacromolecules, 2006, 7, 2449-2454.	2.6	25
94	Atomic resolution structure of serine protease proteinase K at ambient temperature. Scientific Reports, 2017, 7, 45604.	1.6	25
95	Simultaneous introduction of multiple biomacromolecules into plant cells using a cell-penetrating peptide nanocarrier. Nanoscale, 2020, 12, 18844-18856.	2.8	25
96	Dual Peptide-Based Gene Delivery System for the Efficient Transfection of Plant Callus Cells. Biomacromolecules, 2020, 21, 2735-2744.	2.6	25
97	Darwin's bark spider shares a spidroin repertoire with <i>Caerostris extrusa</i> but achieves extraordinary silk toughness through gene expression. Open Biology, 2021, 11, 210242.	1.5	25
98	Optimization of Poly(<i>N</i>-isopropylacrylamide) as an Artificial Amidase. Biomacromolecules, 2015, 16, 411-421.	2.6	24
99	Screening of a Cell-Penetrating Peptide Library in <i>Escherichia coli</i>: Relationship between Cell Penetration Efficiency and Cytotoxicity. ACS Omega, 2018, 3, 16489-16499.	1.6	24
100	Acetate-Inducing Metabolic States Enhance Polyhydroxyalkanoate Production in Marine Purple Non-sulfur Bacteria Under Aerobic Conditions. Frontiers in Bioengineering and Biotechnology, 2019, 7, 118.	2.0	24
101	Mechanistic Insights into Silk Fibroinâ€™s Adhesive Properties via Chemical Functionalization of Serine Side Chains. ACS Biomaterials Science and Engineering, 2019, 5, 5960-5967.	2.6	24
102	Vacuum/Compression Infiltration-mediated Permeation Pathway of a Peptide-pDNA Complex as a Non-Viral Carrier for Gene Delivery in Planta. Scientific Reports, 2019, 9, 271.	1.6	24
103	Polymer-coated carbon nanotube hybrids with functional peptides for gene delivery into plant mitochondria. Nature Communications, 2022, 13, 2417.	5.8	24
104	Chemoenzymatic Synthesis of Oligo(<scp>l</scp>â€cysteine) for Use as a Thermostable Bioâ€Based Material. Macromolecular Bioscience, 2016, 16, 151-159.	2.1	23
105	Role of Skin Layers on Mechanical Properties and Supercontraction of Spider Dragline Silk Fiber. Macromolecular Bioscience, 2019, 19, e1800220.	2.1	23
106	Complexity of Spider Dragline Silk. Biomacromolecules, 2022, 23, 1827-1840.	2.6	23
107	Co-expression of Two Polyhydroxyalkanoate Synthase Subunits from <i>Synechocystis</i> sp. PCC 6803 by Cell-Free Synthesis and Their Specific Activity for Polymerization of 3-Hydroxybutyryl-Coenzyme A. Biochemistry, 2015, 54, 1401-1407.	1.2	22
108	Chemical modification and biosynthesis of silk-like polymers. Current Opinion in Chemical Engineering, 2019, 24, 61-68.	3.8	22

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109	Adsorption and Hydrolysis Reactions of Poly(hydroxybutyric acid) Depolymerases Secreted fromRalstoniapickettiiT1 andPenicilliumfuniculosumonto Poly[(R)-3-hydroxybutyric acid]. Biomacromolecules, 2007, 8, 2276-2281.	2.6	21
110	Active Intermediates of Polyhydroxyalkanoate Synthase from Aeromonas caviae in Polymerization Reaction. Biomacromolecules, 2012, 13, 3450-3455.	2.6	21
111	Double-stranded DNA introduction into intact plants using peptide–DNA complexes. Plant Biotechnology, 2015, 32, 39-45.	0.5	21
112	Papainâ€Catalyzed Chemoenzymatic Synthesis of Telechelic Polypeptides Using Bis(Leucine Ethyl Ester) Initiator. Macromolecular Bioscience, 2016, 16, 1001-1008.	2.1	21
113	Biosynthesis of polyhydroxyalkanoates containing hydroxyl group from glycolate in Escherichia coli. AMB Express, 2016, 6, 29.	1.4	21
114	Chemoâ€Enzymatic Synthesis of Linear and Branched Cationic Peptides: Evaluation as Gene Carriers. Macromolecular Bioscience, 2015, 15, 990-1003.	2.1	20
115	A Screening Method for the Isolation of Polyhydroxyalkanoate-Producing Purple Non-sulfur Photosynthetic Bacteria from Natural Seawater. Frontiers in Microbiology, 2016, 7, 1509.	1.5	20
116	Revealing the Architecture of the Cell Wall in Living Plant Cells by Bioimaging and Enzymatic Degradation. Biomacromolecules, 2020, 21, 95-103.	2.6	20
117	A marine photosynthetic microbial cell factory as a platform for spider silk production. Communications Biology, 2020, 3, 357.	2.0	20
118	Synthesis of Homopolypeptides by Aminolysis Mediated by Proteases Encapsulated in Silica Nanospheres. Macromolecular Bioscience, 2014, 14, 1619-1626.	2.1	19
119	Ion effects on the conformation and dynamics of repetitive domains of a spider silk protein: implications for solubility and Î²-sheet formation. Chemical Communications, 2019, 55, 9761-9764.	2.2	19
120	Visualization of the Necking Initiation and Propagation Processes during Uniaxial Tensile Deformation of Crystalline Polymer Films via the Generation of Fluorescent Radicals. ACS Macro Letters, 2021, 10, 623-627.	2.3	19
121	Rational Designs at the Forefront of Mitochondria-Targeted Gene Delivery: Recent Progress and Future Perspectives. ACS Biomaterials Science and Engineering, 2022, 8, 348-359.	2.6	19
122	Papain-Catalyzed Synthesis of Polyglutamate Containing a Nylon Monomer Unit. Polymers, 2016, 8, 194.	2.0	18
123	Reconsidering the â€œglass transitionâ€•hypothesis of intrinsically unstructured CAHS proteins in desiccation tolerance of tardigrades. Molecular Cell, 2021, 81, 409-410.	4.5	18
124	Chemoenzymatic synthesis of a peptide containing nylon monomer units for thermally processable peptide material application. Polymer Chemistry, 2017, 8, 4172-4176.	1.9	17
125	Spider dragline silk composite films doped with linear and telechelic polyalanine: Effect of polyalanine on the structure and mechanical properties. Scientific Reports, 2018, 8, 3654.	1.6	17
126	Optimal iron concentrations for growth-associated polyhydroxyalkanoate biosynthesis in the marine photosynthetic purple bacterium Rhodovulum sulfidophilum under photoheterotrophic condition. PLoS ONE, 2019, 14, e0212654.	1.1	17

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127	In-Situ Atomic Force Microscopy Observation of Enzymatic Degradation in Poly(hydroxyalkanoic acid) Thin Films: Normal and Constrained Conditions. Macromolecular Bioscience, 2004, 4, 276-285.	2.1	16
128	Carotenoids in the eyespot apparatus are required for triggering phototaxis in <scp><i>Euglena gracilis</i></scp>. Plant Journal, 2020, 101, 1091-1102.	2.8	16
129	Chemoenzymatic modification of silk fibroin with poly(2,6-dimethyl-1,5-phenylene ether) using horseradish peroxidase. RSC Advances, 2016, 6, 28737-28744.	1.7	15
130	Chemoenzymatic synthesis of polypeptides consisting of periodic di- and tri-peptide motifs similar to elastin. Polymer Chemistry, 2018, 9, 2336-2344.	1.9	15
131	Fusion Peptide-Based Biomacromolecule Delivery System for Plant Cells. ACS Biomaterials Science and Engineering, 2021, 7, 2246-2254.	2.6	15
132	Direct introduction of neomycin phosphotransferase II protein into apple leaves to confer kanamycin resistance. Plant Biotechnology, 2016, 33, 403-407.	0.5	14
133	Synthesis of peptides with narrow molecular weight distributions via exopeptidase-catalyzed aminolysis of hydrophobic amino-acid alkyl esters. Polymer Journal, 2016, 48, 955-961.	1.3	14
134	Cell-Penetrating Peptide-Mediated Transformation of Large Plasmid DNA into <i>Escherichia coli</i>. ACS Synthetic Biology, 2019, 8, 1215-1218.	1.9	14
135	High Capacity Functionalized Protein Superabsorbents from an Agricultural Coâ€Product: A Cradleâ€toâ€Cradle Approach. Advanced Sustainable Systems, 2020, 4, 2000110.	2.7	14
136	Synthetic Short Peptides for Rapid Fabrication of Monolayer Cell Sheets. ACS Biomaterials Science and Engineering, 2016, 2, 697-706.	2.6	13
137	Characterization of the depolymerizing activity of commercial lipases and detection of lipase-like activities in animal organ extracts using poly(3-hydroxybutyrate-co-4-hydroxybutyrate) thin film. AMB Express, 2016, 6, 97.	1.4	13
138	Periodic introduction of aromatic units in polypeptides via chemoenzymatic polymerization to yield specific secondary structures with high thermal stability. Polymer Journal, 2019, 51, 1287-1298.	1.3	13
139	Insights into the Stereospecificity in Papain-Mediated Chemoenzymatic Polymerization from Quantum Mechanics/Molecular Mechanics Simulations. ACS Chemical Biology, 2019, 14, 1280-1292.	1.6	13
140	Development of regenerated silk films coated with fluorinated polypeptides to achieve high water repellency and biodegradability in seawater. Polymer Degradation and Stability, 2019, 160, 96-101.	2.7	13
141	Mitochondrial movement during its association with chloroplasts in Arabidopsis thaliana. Communications Biology, 2021, 4, 292.	2.0	13
142	Relaxation of the Plant Cell Wall Barrier via Zwitterionic Liquid Pretreatment for Micelleâ€Complexâ€Mediated DNA Delivery to Specific Plant Organelles. Angewandte Chemie - International Edition, 2022, 61, .	7.2	13
143	Class I Polyhydroxyalkanoate Synthase from the Purple Photosynthetic Bacterium <i>Rhodovulum sulfidophilum</i> Predominantly Exists as a Functional Dimer in the Absence of a Substrate. ACS Omega, 2017, 2, 5071-5078.	1.6	12
144	Peptide-Based Polyion Complex Vesicles That Deliver Enzymes into Intact Plants To Provide Antibiotic Resistance without Genetic Modification. Biomacromolecules, 2021, 22, 1080-1090.	2.6	12

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145	Plastics to fertilizers: chemical recycling of a bio-based polycarbonate as a fertilizer source. Green Chemistry, 2021, 23, 9030-9037.	4.6	12
146	Adsorption effects of poly(hydroxybutyric acid) depolymerase on chain-folding surface of polyester single crystals revealed by mutant enzyme and frictional force microscopy. Polymer Degradation and Stability, 2007, 92, 176-183.	2.7	11
147	Method for the facile transformation of marine purple photosynthetic bacteria using chemically competent cells. MicrobiologyOpen, 2020, 9, e00953.	1.2	11
148	Nanoscale Polyion Complex Vesicles for Delivery of Cargo Proteins and Cas9 Ribonucleoprotein Complexes to Plant Cells. ACS Applied Nano Materials, 2021, 4, 5630-5635.	2.4	11
149	An oomycete NLP cytolysin forms transient small pores in lipid membranes. Science Advances, 2022, 8, eabj9406.	4.7	11
150	Peptide-derived Method to Transport Genes and Proteins Across Cellular and Organellar Barriers in Plants. Journal of Visualized Experiments, 2016, , .	0.2	10
151	Viscosity-adjustable grease matrices for serial nanocrystallography. Scientific Reports, 2020, 10, 1371.	1.6	10
152	Aqueous spinning system with a citrate buffer for highly extensible silk fibers. Polymer Journal, 2021, 53, 179-189.	1.3	10
153	Construction and Piezoelectric Properties of a Single-Peptide Nanotube Composed of Cyclic Î²-peptides with Helical Peptides on the Side Chains. Biomacromolecules, 2021, 22, 2815-2821.	2.6	10
154	Lipid Membrane Interaction of Peptide/DNA Complexes Designed for Gene Delivery. Langmuir, 2021, 37, 1882-1893.	1.6	10
155	A Synthetic Multidomain Peptide That Drives a Macropinocytosis-Like Mechanism for Cytosolic Transport of Exogenous Proteins into Plants. Jacs Au, 2022, 2, 223-233.	3.6	10
156	Silk Composite with a Fluoropolymer as a Water-Resistant Protein-Based Material. Polymers, 2018, 10, 459.	2.0	9
157	Xanthurenic Acid Is the Main Pigment of Trichonephila clavata Gold Dragline Silk. Biomolecules, 2021, 11, 563.	1.8	9
158	Efficient 3â€Hydroxybutyrate Production by Quiescent <i>Escherichia coli</i> Microbial Cell Factories is Facilitated by Indoleâ€Induced Proteomic and Metabolomic Changes. Biotechnology Journal, 2018, 13, e1700571.	1.8	8
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