

# Keiji Numata

## List of Publications by Citations

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**Version:** 2024-04-27

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197  
papers

5,834  
citations

40  
h-index

68  
g-index

222  
ext. papers

7,059  
ext. citations

6  
avg, IF

6.53  
L-index

#	Paper	IF	Citations
197	Biopolymer-based nanoparticles for drug/gene delivery and tissue engineering. <i>International Journal of Molecular Sciences</i> , <b>2013</b> , 14, 1629-54	6.3	457
196	The Biomedical Use of Silk: Past, Present, Future. <i>Advanced Healthcare Materials</i> , <b>2019</b> , 8, e1800465	10.1	299
195	Silk-based delivery systems of bioactive molecules. <i>Advanced Drug Delivery Reviews</i> , <b>2010</b> , 62, 1497-508	18.5	282
194	Mechanism of enzymatic degradation of beta-sheet crystals. <i>Biomaterials</i> , <b>2010</b> , 31, 2926-33	15.6	192
193	Branched poly(lactide) synthesized by enzymatic polymerization: effects of molecular branches and stereochemistry on enzymatic degradation and alkaline hydrolysis. <i>Biomacromolecules</i> , <b>2007</b> , 8, 3115-25	6.9	120
192	Influence of Water Content on the $\beta$ -Sheet Formation, Thermal Stability, Water Removal, and Mechanical Properties of Silk Materials. <i>Biomacromolecules</i> , <b>2016</b> , 17, 1057-66	6.9	115
191	Expression, cross-linking, and characterization of recombinant chitin binding resilin. <i>Biomacromolecules</i> , <b>2009</b> , 10, 3227-34	6.9	104
190	Bioengineered silk protein-based gene delivery systems. <i>Biomaterials</i> , <b>2009</b> , 30, 5775-84	15.6	103
189	Reinforcing silk scaffolds with silk particles. <i>Macromolecular Bioscience</i> , <b>2010</b> , 10, 599-611	5.5	102
188	Increased bioplastic production with an RNA polymerase sigma factor SigE during nitrogen starvation in <i>Synechocystis</i> sp. PCC 6803. <i>DNA Research</i> , <b>2013</b> , 20, 525-35	4.5	100
187	Relationships between physical properties and sequence in silkworm silks. <i>Scientific Reports</i> , <b>2016</b> , 6, 27573	4.9	99
186	State of water, molecular structure, and cytotoxicity of silk hydrogels. <i>Biomacromolecules</i> , <b>2011</b> , 12, 2137-44	7.4	98
185	Local gene silencing in plants via synthetic dsRNA and carrier peptide. <i>Plant Biotechnology Journal</i> , <b>2014</b> , 12, 1027-34	11.6	92
184	Understanding the Limitations in the Biosynthesis of Polyhydroxyalkanoate (PHA) from Lignin Derivatives. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2014</b> , 2, 1106-1113	8.3	85
183	Surface-patterned electrode bioreactor for electrical stimulation. <i>Lab on A Chip</i> , <b>2010</b> , 10, 692-700	7.2	81
182	Gene delivery mediated by recombinant silk proteins containing cationic and cell binding motifs. <i>Journal of Controlled Release</i> , <b>2010</b> , 146, 136-43	11.7	81
181	Spider silk-based gene carriers for tumor cell-specific delivery. <i>Bioconjugate Chemistry</i> , <b>2011</b> , 22, 1605-16	6.3	77

180	Biocompatible and biodegradable dual-drug release system based on silk hydrogel containing silk nanoparticles. <i>Biomacromolecules</i> , <b>2012</b> , 13, 1383-9	6.9	75
179	Poly(amino acid)s/polypeptides as potential functional and structural materials. <i>Polymer Journal</i> , <b>2015</b> , 47, 537-545	2.7	72
178	Recent advances in chemoenzymatic peptide syntheses. <i>Molecules</i> , <b>2014</b> , 19, 13755-74	4.8	69
177	Rapid and efficient gene delivery into plant cells using designed peptide carriers. <i>Biomacromolecules</i> , <b>2013</b> , 14, 10-6	6.9	69
176	Silk-based gene carriers with cell membrane destabilizing peptides. <i>Biomacromolecules</i> , <b>2010</b> , 11, 3189-95	6.9	66
175	Silk-based nanocomplexes with tumor-homing peptides for tumor-specific gene delivery. <i>Macromolecular Bioscience</i> , <b>2012</b> , 12, 75-82	5.5	65
174	Biosynthesis and characterization of polyhydroxyalkanoate containing 5-hydroxyvalerate units: Effects of 5HV units on biodegradability, cytotoxicity, mechanical and thermal properties. <i>Polymer Degradation and Stability</i> , <b>2013</b> , 98, 331-338	4.7	63
173	Pathway-level acceleration of glycogen catabolism by a response regulator in the cyanobacterium <i>Synechocystis</i> species PCC 6803. <i>Plant Physiology</i> , <b>2014</b> , 164, 1831-41	6.6	59
172	Gene introduction into the mitochondria of <i>Arabidopsis thaliana</i> via peptide-based carriers. <i>Scientific Reports</i> , <b>2015</b> , 5, 7751	4.9	56
171	Chemoenzymatic synthesis of poly(L-alanine) in aqueous environment. <i>Biomacromolecules</i> , <b>2012</b> , 13, 947-51	6.9	56
170	Hydroxyethyl cellulose matrix applied to serial crystallography. <i>Scientific Reports</i> , <b>2017</b> , 7, 703	4.9	55
169	Raman image-activated cell sorting. <i>Nature Communications</i> , <b>2020</b> , 11, 3452	17.4	55
168	Screening of Marine Bacteria To Synthesize Polyhydroxyalkanoate from Lignin: Contribution of Lignin Derivatives to Biosynthesis by <i>Oceanimonas doudoroffii</i> . <i>ACS Sustainable Chemistry and Engineering</i> , <b>2015</b> , 3, 569-573	8.3	52
167	Synthesis of High-Molecular-Weight Polyhydroxyalkanoates by Marine Photosynthetic Purple Bacteria. <i>PLoS ONE</i> , <b>2016</b> , 11, e0160981	3.7	51
166	Quantifying osteogenic cell degradation of silk biomaterials. <i>Biomacromolecules</i> , <b>2010</b> , 11, 3592-9	6.9	50
165	Biodegradability of Poly(hydroxyalkanoate) Materials. <i>Materials</i> , <b>2009</b> , 2, 1104-1126	3.5	50
164	Biosynthesis of polyhydroxyalkanoate (PHA) copolymer from fructose using wild-type and laboratory-evolved PHA synthases. <i>Macromolecular Bioscience</i> , <b>2005</b> , 5, 112-7	5.5	50
163	Synthesis of adhesive peptides similar to those found in blue mussel ( <i>Mytilus edulis</i> ) using papain and tyrosinase. <i>Biomacromolecules</i> , <b>2014</b> , 15, 3206-12	6.9	47

162	Crystal structure and physical properties of <i>Antheraea yamamai</i> silk fibers: Long poly(alanine) sequences are partially in the crystalline region. <i>Polymer</i> , <b>2015</b> , 77, 87-94	3.9	43
161	Short one-pot chemo-enzymatic synthesis of L-lysine and L-alanine diblock co-oligopeptides. <i>Biomacromolecules</i> , <b>2014</b> , 15, 735-43	6.9	41
160	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: effects of molecular weight and second-monomer composition on erosion rates. <i>Biomacromolecules</i> , <b>2005</b> , 6, 2008-16	6.9	41
159	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. <i>Biomacromolecules</i> , <b>2004</b> , 5, 2186-94	6.9	41
158	Modification of $\beta$ -oxidation pathway in <i>Ralstonia eutropha</i> for production of poly(3-hydroxybutyrate-co-3-hydroxyhexanoate) from soybean oil. <i>Journal of Bioscience and Bioengineering</i> , <b>2014</b> , 117, 184-190	3.3	40
157	Proteinase K-catalyzed synthesis of linear and star oligo(L-phenylalanine) conjugates. <i>Biomacromolecules</i> , <b>2013</b> , 14, 3635-42	6.9	40
156	Biodegradability of nylon 4 film in a marine environment. <i>Polymer Degradation and Stability</i> , <b>2013</b> , 98, 1847-1851	4.7	40
155	Self-Assembled Peptide-Based System for Mitochondrial-Targeted Gene Delivery: Functional and Structural Insights. <i>Biomacromolecules</i> , <b>2016</b> , 17, 3547-3557	6.9	40
154	Mechanisms of enzymatic degradation of amyloid Beta microfibrils generating nanofilaments and nanospheres related to cytotoxicity. <i>Biochemistry</i> , <b>2010</b> , 49, 3254-60	3.2	39
153	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. <i>Biomacromolecules</i> , <b>2008</b> , 9, 2180-5	6.9	38
152	Oil-free hyaluronic acid matrix for serial femtosecond crystallography. <i>Scientific Reports</i> , <b>2016</b> , 6, 24484	4.9	38
151	Liquid Crystalline Granules Align in a Hierarchical Structure To Produce Spider Dragline Microfibrils. <i>Biomacromolecules</i> , <b>2017</b> , 18, 1350-1355	6.9	37
150	Silk-pectin hydrogel with superior mechanical properties, biodegradability, and biocompatibility. <i>Macromolecular Bioscience</i> , <b>2014</b> , 14, 799-806	5.5	37
149	Influence of Cross-Linking on the Physical Properties and Cytotoxicity of Polyhydroxyalkanoate (PHA) Scaffolds for Tissue Engineering. <i>ACS Biomaterials Science and Engineering</i> , <b>2015</b> , 1, 567-576	5.5	37
148	Intracellular Delivery of Proteins via Fusion Peptides in Intact Plants. <i>PLoS ONE</i> , <b>2016</b> , 11, e0154081	3.7	36
147	Selective Gene Delivery for Integrating Exogenous DNA into Plastid and Mitochondrial Genomes Using Peptide-DNA Complexes. <i>Biomacromolecules</i> , <b>2018</b> , 19, 1582-1591	6.9	35
146	Conformation and dynamics of soluble repetitive domain elucidates the initial $\beta$ -sheet formation of spider silk. <i>Nature Communications</i> , <b>2018</b> , 9, 2121	17.4	35
145	Analysis of repetitive amino acid motifs reveals the essential features of spider dragline silk proteins. <i>PLoS ONE</i> , <b>2017</b> , 12, e0183397	3.7	34

144	Use of extension-deformation-based crystallisation of silk fibres to differentiate their functions in nature. <i>Soft Matter</i> , <b>2015</b> , 11, 6335-42	3.6	33
143	Biosynthesis of polyhydroxyalkanoates by a novel facultatively anaerobic <i>Vibrio</i> sp. under marine conditions. <i>Marine Biotechnology</i> , <b>2012</b> , 14, 323-31	3.4	32
142	Chemoenzymatic synthesis of polypeptides containing the unnatural amino acid 2-aminoisobutyric acid. <i>Chemical Communications</i> , <b>2017</b> , 53, 7318-7321	5.8	31
141	Phasin proteins activate <i>Aeromonas caviae</i> polyhydroxyalkanoate (PHA) synthase but not <i>Ralstonia eutropha</i> PHA synthase. <i>Applied and Environmental Microbiology</i> , <b>2014</b> , 80, 2867-73	4.8	31
140	Chemoenzymatic Synthesis of Polypeptides for Use as Functional and Structural Materials. <i>Macromolecular Bioscience</i> , <b>2017</b> , 17, 1700177	5.5	31
139	Stimulus-Responsive Peptide for Effective Delivery and Release of DNA in Plants. <i>Biomacromolecules</i> , <b>2018</b> , 19, 1154-1163	6.9	30
138	Combination of Amorphous Silk Fiber Spinning and Postspinning Crystallization for Tough Regenerated Silk Fibers. <i>Biomacromolecules</i> , <b>2018</b> , 19, 2227-2237	6.9	30
137	Library screening of cell-penetrating peptide for BY-2 cells, leaves of Arabidopsis, tobacco, tomato, poplar, and rice callus. <i>Scientific Reports</i> , <b>2018</b> , 8, 10966	4.9	30
136	Silk Resin with Hydrated Dual Chemical-Physical Cross-Links Achieves High Strength and Toughness. <i>Biomacromolecules</i> , <b>2017</b> , 18, 1937-1946	6.9	29
135	Characterization of site-specific mutations in a short-chain-length/medium-chain-length polyhydroxyalkanoate synthase: in vivo and in vitro studies of enzymatic activity and substrate specificity. <i>Applied and Environmental Microbiology</i> , <b>2013</b> , 79, 3813-21	4.8	29
134	Adsorption of biopolyester depolymerase on silicon wafer and poly[(R)-3-hydroxybutyric acid] single crystal revealed by real-time AFM. <i>Macromolecular Bioscience</i> , <b>2006</b> , 6, 41-50	5.5	29
133	The Benzyl Ester Group of Amino Acid Monomers Enhances Substrate Affinity and Broadens the Substrate Specificity of the Enzyme Catalyst in Chemoenzymatic Copolymerization. <i>Biomacromolecules</i> , <b>2016</b> , 17, 314-23	6.9	28
132	Influence of Hydroxyl Groups on the Cell Viability of Polyhydroxyalkanoate (PHA) Scaffolds for Tissue Engineering. <i>ACS Biomaterials Science and Engineering</i> , <b>2017</b> , 3, 3064-3075	5.5	28
131	Integrating tough <i>Antheraea pernyi</i> silk and strong carbon fibres for impact-critical structural composites. <i>Nature Communications</i> , <b>2019</b> , 10, 3786	17.4	27
130	Chemical Synthesis of Multiblock Copolypeptides Inspired by Spider Dragline Silk Proteins. <i>ACS Macro Letters</i> , <b>2017</b> , 6, 103-106	6.6	26
129	AFM study of morphology and mechanical properties of a chimeric spider silk and bone sialoprotein protein for bone regeneration. <i>Biomacromolecules</i> , <b>2011</b> , 12, 1675-85	6.9	26
128	Tensile Reinforcement of Silk Films by the Addition of Telechelic-Type Polyalanine. <i>Biomacromolecules</i> , <b>2017</b> , 18, 1002-1009	6.9	25
127	Targeted Gene Delivery into Various Plastids Mediated by Clustered Cell-Penetrating and Chloroplast-Targeting Peptides. <i>Advanced Science</i> , <b>2019</b> , 6, 1902064	13.6	25

126	Spider silk self-assembly via modular liquid-liquid phase separation and nanofibrillation. <i>Science Advances</i> , <b>2020</b> , 6,	14.3	24
125	Simultaneous effect of strain rate and humidity on the structure and mechanical behavior of spider silk. <i>Communications Materials</i> , <b>2020</b> , 1,	6	24
124	Differences in cytotoxicity of β-sheet peptides originated from silk and amyloid β. <i>Macromolecular Bioscience</i> , <b>2011</b> , 11, 60-4	5.5	24
123	The interplay between silk fibroin's structure and its adhesive properties. <i>ACS Biomaterials Science and Engineering</i> , <b>2018</b> , 4, 2815-2824	5.5	23
122	Enzyme-Mimic Peptide Assembly To Achieve Amidolytic Activity. <i>Biomacromolecules</i> , <b>2016</b> , 17, 3375-3385.	9	23
121	Optimization of poly(N-isopropylacrylamide) as an artificial amidase. <i>Biomacromolecules</i> , <b>2015</b> , 16, 411-24.	9	22
120	Nonspecific hydrophobic interactions of a repressor protein, PhaR, with poly[(R)-3-hydroxybutyrate] film studied with a quartz crystal microbalance. <i>Biomacromolecules</i> , <b>2006</b> , 7, 2449-54	6.9	22
119	3,4-Dihydroxyphenylalanine (DOPA)-Containing Silk Fibroin: Its Enzymatic Synthesis and Adhesion Properties. <i>ACS Biomaterials Science and Engineering</i> , <b>2019</b> , 5, 5644-5651	5.5	22
118	How to define and study structural proteins as biopolymer materials. <i>Polymer Journal</i> , <b>2020</b> , 52, 1043-1056	6	21
117	Synthesis of poly- and oligo(hydroxyalkanoate)s by deep-sea bacteria, <i>Colwellia</i> spp., <i>Moritella</i> spp., and <i>Shewanella</i> spp. <i>Polymer Journal</i> , <b>2013</b> , 45, 1094-1100	2.7	21
116	Crystallization-induced mechanofluorescence for visualization of polymer crystallization. <i>Nature Communications</i> , <b>2021</b> , 12, 126	17.4	21
115	Biosynthesis of polyhydroxyalkanoates containing hydroxyl group from glycolate in <i>Escherichia coli</i> . <i>AMB Express</i> , <b>2016</b> , 6, 29	4.1	20
114	Adsorption and hydrolysis reactions of poly(hydroxybutyric acid) depolymerases secreted from <i>Ralstonia pickettii</i> T1 and <i>Penicillium funiculosum</i> onto poly[(R)-3-hydroxybutyric acid]. <i>Biomacromolecules</i> , <b>2007</b> , 8, 2276-81	6.9	20
113	Atomic resolution structure of serine protease proteinase K at ambient temperature. <i>Scientific Reports</i> , <b>2017</b> , 7, 45604	4.9	19
112	Active intermediates of polyhydroxyalkanoate synthase from <i>Aeromonas caviae</i> in polymerization reaction. <i>Biomacromolecules</i> , <b>2012</b> , 13, 3450-5	6.9	19
111	Enzymatic processes for biodegradation of poly(hydroxyalkanoate)s crystals. <i>Canadian Journal of Chemistry</i> , <b>2008</b> , 86, 471-483	0.9	19
110	Chemoenzymatic Synthesis of Oligo(L-cysteine) for Use as a Thermostable Bio-Based Material. <i>Macromolecular Bioscience</i> , <b>2016</b> , 16, 151-9	5.5	19
109	The bagworm genome reveals a unique fibroin gene that provides high tensile strength. <i>Communications Biology</i> , <b>2019</b> , 2, 148	6.7	18

108	Papain-Catalyzed Chemoenzymatic Synthesis of Telechelic Polypeptides Using Bis(Leucine Ethyl Ester) Initiator. <i>Macromolecular Bioscience</i> , <b>2016</b> , 16, 1001-8	5.5	18
107	Block Copolymer/Plasmid DNA Micelles Postmodified with Functional Peptides via Thiol-Maleimide Conjugation for Efficient Gene Delivery into Plants. <i>Biomacromolecules</i> , <b>2019</b> , 20, 653-661	6.9	18
106	Synthesis of homopolypeptides by aminolysis mediated by proteases encapsulated in silica nanospheres. <i>Macromolecular Bioscience</i> , <b>2014</b> , 14, 1619-26	5.5	17
105	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. <i>Biochemistry</i> , <b>2015</b> , 54, 1401-7	3.2	17
104	Derivatization of Proteinase K with Heavy Atoms Enhances Its Thermal Stability. <i>ACS Catalysis</i> , <b>2016</b> , 6, 3036-3046	13.1	17
103	Marine Purple Photosynthetic Bacteria as Sustainable Microbial Production Hosts. <i>Frontiers in Bioengineering and Biotechnology</i> , <b>2019</b> , 7, 258	5.8	16
102	In-situ atomic force microscopy observation of enzymatic degradation in poly(hydroxyalkanoic acid) thin films: normal and constrained conditions. <i>Macromolecular Bioscience</i> , <b>2004</b> , 4, 276-85	5.5	16
101	Chemical modification and biosynthesis of silk-like polymers. <i>Current Opinion in Chemical Engineering</i> , <b>2019</b> , 24, 61-68	5.4	15
100	Chemo-Enzymatic Synthesis of Linear and Branched Cationic Peptides: Evaluation as Gene Carriers. <i>Macromolecular Bioscience</i> , <b>2015</b> , 15, 990-1003	5.5	15
99	Acetate-Inducing Metabolic States Enhance Polyhydroxyalkanoate Production in Marine Purple Non-sulfur Bacteria Under Aerobic Conditions. <i>Frontiers in Bioengineering and Biotechnology</i> , <b>2019</b> , 7, 118	5.8	15
98	Double-stranded DNA introduction into intact plants using peptide&#x2013;DNA complexes. <i>Plant Biotechnology</i> , <b>2015</b> , 32, 39-45	1.3	15
97	Morphological and mechanical properties of flexible resilin joints on damselfly wings ( <i>Rhincocypha</i> spp.). <i>PLoS ONE</i> , <b>2018</b> , 13, e0193147	3.7	15
96	Role of Skin Layers on Mechanical Properties and Supercontraction of Spider Dragline Silk Fiber. <i>Macromolecular Bioscience</i> , <b>2019</b> , 19, e1800220	5.5	15
95	Multicomponent nature underlies the extraordinary mechanical properties of spider dragline silk. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2021</b> , 118,	11.5	15
94	Papain-Catalyzed Synthesis of Polyglutamate Containing a Nylon Monomer Unit. <i>Polymers</i> , <b>2016</b> , 8,	4.5	14
93	Vacuum/Compression Infiltration-mediated Permeation Pathway of a Peptide-pDNA Complex as a Non-Viral Carrier for Gene Delivery in Planta. <i>Scientific Reports</i> , <b>2019</b> , 9, 271	4.9	13
92	Optimal iron concentrations for growth-associated polyhydroxyalkanoate biosynthesis in the marine photosynthetic purple bacterium <i>Rhodovulum sulfidophilum</i> under photoheterotrophic condition. <i>PLoS ONE</i> , <b>2019</b> , 14, e0212654	3.7	13
91	Synthesis of peptides with narrow molecular weight distributions via exopeptidase-catalyzed aminolysis of hydrophobic amino-acid alkyl esters. <i>Polymer Journal</i> , <b>2016</b> , 48, 955-961	2.7	13

90	Native protein delivery into rice callus using ionic complexes of protein and cell-penetrating peptides. <i>PLoS ONE</i> , <b>2019</b> , 14, e0214033	3.7	13
89	Dual Peptide-Based Gene Delivery System for the Efficient Transfection of Plant Callus Cells. <i>Biomacromolecules</i> , <b>2020</b> , 21, 2735-2744	6.9	12
88	Artificial Cell-Penetrating Peptide Containing Periodic $\beta$ -Aminoisobutyric Acid with Long-Term Internalization Efficiency in Human and Plant Cells. <i>ACS Biomaterials Science and Engineering</i> , <b>2020</b> , 6, 3287-3298	5.5	12
87	Chemoenzymatic synthesis of polypeptides consisting of periodic di- and tri-peptide motifs similar to elastin. <i>Polymer Chemistry</i> , <b>2018</b> , 9, 2336-2344	4.9	12
86	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. <i>AMB Express</i> , <b>2016</b> , 6, 97	4.1	12
85	Chemoenzymatic modification of silk fibroin with poly(2,6-dimethyl-1,5-phenylene ether) using horseradish peroxidase. <i>RSC Advances</i> , <b>2016</b> , 6, 28737-28744	3.7	12
84	A Screening Method for the Isolation of Polyhydroxyalkanoate-Producing Purple Non-sulfur Photosynthetic Bacteria from Natural Seawater. <i>Frontiers in Microbiology</i> , <b>2016</b> , 7, 1509	5.7	12
83	Revealing the Architecture of the Cell Wall in Living Plant Cells by Bioimaging and Enzymatic Degradation. <i>Biomacromolecules</i> , <b>2020</b> , 21, 95-103	6.9	12
82	Adsorption effects of poly(hydroxybutyric acid) depolymerase on chain-folding surface of polyester single crystals revealed by mutant enzyme and frictional force microscopy. <i>Polymer Degradation and Stability</i> , <b>2007</b> , 92, 176-183	4.7	11
81	Screening of a Cell-Penetrating Peptide Library in <i>Escherichia coli</i> : Relationship between Cell Penetration Efficiency and Cytotoxicity. <i>ACS Omega</i> , <b>2018</b> , 3, 16489-16499	3.9	11
80	Chemoenzymatic synthesis of a peptide containing nylon monomer units for thermally processable peptide material application. <i>Polymer Chemistry</i> , <b>2017</b> , 8, 4172-4176	4.9	10
79	Molecular Interactions and Toughening Mechanisms in Silk Fibroin-Epoxy Resin Blend Films. <i>Biomacromolecules</i> , <b>2019</b> , 20, 2295-2304	6.9	10
78	Direct introduction of neomycin phosphotransferase II protein into apple leaves to confer kanamycin resistance. <i>Plant Biotechnology</i> , <b>2016</b> , 33, 403-407	1.3	10
77	Synthetic Short Peptides for Rapid Fabrication of Monolayer Cell Sheets. <i>ACS Biomaterials Science and Engineering</i> , <b>2016</b> , 2, 697-706	5.5	10
76	Development of regenerated silk films coated with fluorinated polypeptides to achieve high water repellency and biodegradability in seawater. <i>Polymer Degradation and Stability</i> , <b>2019</b> , 160, 96-101	4.7	10
75	Spider dragline silk composite films doped with linear and telechelic polyalanine: Effect of polyalanine on the structure and mechanical properties. <i>Scientific Reports</i> , <b>2018</b> , 8, 3654	4.9	9
74	Peptide-derived Method to Transport Genes and Proteins Across Cellular and Organellar Barriers in Plants. <i>Journal of Visualized Experiments</i> , <b>2016</b> ,	1.6	9
73	Periodic introduction of aromatic units in polypeptides via chemoenzymatic polymerization to yield specific secondary structures with high thermal stability. <i>Polymer Journal</i> , <b>2019</b> , 51, 1287-1298	2.7	9



72	Ion effects on the conformation and dynamics of repetitive domains of a spider silk protein: implications for solubility and $\beta$ -sheet formation. <i>Chemical Communications</i> , <b>2019</b> , 55, 9761-9764	5.8	9
71	Simultaneous introduction of multiple biomacromolecules into plant cells using a cell-penetrating peptide nanocarrier. <i>Nanoscale</i> , <b>2020</b> , 12, 18844-18856	7.7	9
70	Mechanistic insights into silk fibroin's adhesive properties via chemical functionalization of serine side chains. <i>ACS Biomaterials Science and Engineering</i> , <b>2019</b> , 5, 5960-5967	5.5	8
69	Insights into the Stereospecificity in Papain-Mediated Chemoenzymatic Polymerization from Quantum Mechanics/Molecular Mechanics Simulations. <i>ACS Chemical Biology</i> , <b>2019</b> , 14, 1280-1292	4.9	8
68	Silk Composite with a Fluoropolymer as a Water-Resistant Protein-Based Material. <i>Polymers</i> , <b>2018</b> , 10,	4.5	8
67	Class I Polyhydroxyalkanoate Synthase from the Purple Photosynthetic Bacterium Predominantly Exists as a Functional Dimer in the Absence of a Substrate. <i>ACS Omega</i> , <b>2017</b> , 2, 5071-5078	3.9	8
66	Silk/Natural Rubber (NR) and 3,4-Dihydroxyphenylalanine (DOPA)-Modified Silk/NR Composites: Synthesis, Secondary Structure, and Mechanical Properties. <i>Molecules</i> , <b>2020</b> , 25,	4.8	8
65	Endosome-escaping micelle complexes dually equipped with cell-penetrating and endosome-disrupting peptides for efficient DNA delivery into intact plants. <i>Nanoscale</i> , <b>2021</b> , 13, 5679-5692	7.7	8
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