David L Kaplan

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/10737600/publications.pdf

Version: 2024-02-01

1,148
papers

107,314
citations

143

157
h-index

481

270
g-index

1165
all docs

1165
docs citations

1165
times ranked

59323
citing authors

#	Article	IF	Citations
1	Silk-based biomaterials. Biomaterials, 2003, 24, 401-416.	5.7	2,981
2	Materials fabrication from Bombyx mori silk fibroin. Nature Protocols, 2011, 6, 1612-1631.	5.5	2,265
3	Silk as a biomaterial. Progress in Polymer Science, 2007, 32, 991-1007.	11.8	2,208
4	Dissolvable films of silk fibroin for ultrathin conformal bio-integrated electronics. Nature Materials, 2010, 9, 511-517.	13.3	1,501
5	New Opportunities for an Ancient Material. Science, 2010, 329, 528-531.	6.0	1,224
6	Mechanism of silk processing in insects and spiders. Nature, 2003, 424, 1057-1061.	13.7	1,214
7	A Physically Transient Form of Silicon Electronics. Science, 2012, 337, 1640-1644.	6.0	1,085
8	Electrospun silk-BMP-2 scaffolds for bone tissue engineering. Biomaterials, 2006, 27, 3115-3124.	5.7	1,056
9	Three-dimensional aqueous-derived biomaterial scaffolds from silk fibroin. Biomaterials, 2005, 26, 2775-2785.	5.7	884
10	Stem cell-based tissue engineering with silk biomaterials. Biomaterials, 2006, 27, 6064-6082.	5.7	869
11	Porous 3-D Scaffolds from Regenerated Silk Fibroin. Biomacromolecules, 2004, 5, 718-726.	2.6	807
12	Graphene-based wireless bacteria detection on tooth enamel. Nature Communications, 2012, 3, 763.	5.8	806
13	Silk matrix for tissue engineered anterior cruciate ligaments. Biomaterials, 2002, 23, 4131-4141.	5.7	791
14	Vascularization Strategies for Tissue Engineering. Tissue Engineering - Part B: Reviews, 2009, 15, 353-370.	2.5	765
15	Functionalized silk-based biomaterials for bone formation. Journal of Biomedical Materials Research Part B, 2001, 54, 139-148.	3.0	738
16	Structure and Properties of Silk Hydrogels. Biomacromolecules, 2004, 5, 786-792.	2.6	735
17	The inflammatory responses to silk films in vitro and in vivo. Biomaterials, 2005, 26, 147-155.	5.7	725
18	ElectrospinningBombyx moriSilk with Poly(ethylene oxide). Biomacromolecules, 2002, 3, 1233-1239.	2.6	679

#	ARTICLE	IF	CITATIONS
19	In vivo degradation of three-dimensional silk fibroin scaffolds. Biomaterials, 2008, 29, 3415-3428.	5.7	679
20	In vitro degradation of silk fibroin. Biomaterials, 2005, 26, 3385-3393.	5.7	657
21	Human bone marrow stromal cell responses on electrospun silk fibroin mats. Biomaterials, 2004, 25, 1039-1047.	5.7	596
22	Ultra-sensitive vibrational spectroscopy of protein monolayers with plasmonic nanoantenna arrays. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 19227-19232.	3.3	593
23	Cationic polymers and their therapeutic potential. Chemical Society Reviews, 2012, 41, 7147.	18.7	588
24	Sonication-induced gelation of silk fibroin for cell encapsulation. Biomaterials, 2008, 29, 1054-1064.	5.7	575
25	Cell differentiation by mechanical stress. FASEB Journal, 2002, 16, 1-13.	0.2	561
26	Waterproof AlInGaP optoelectronics on stretchable substrates with applications in biomedicine andÂrobotics. Nature Materials, 2010, 9, 929-937.	13.3	557
27	Water-insoluble silk films with silk I structure. Acta Biomaterialia, 2010, 6, 1380-1387.	4.1	530
28	Regulation of Silk Material Structure by Temperature-Controlled Water Vapor Annealing. Biomacromolecules, 2011, 12, 1686-1696.	2.6	530
29	Macrophage responses to silk. Biomaterials, 2003, 24, 3079-3085.	5.7	504
30	Native-sized recombinant spider silk protein produced in metabolically engineered <i>Escherichia coli</i> results in a strong fiber. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 14059-14063.	3.3	485
31	Mechanisms of Silk Fibroin Solâ^'Gel Transitions. Journal of Physical Chemistry B, 2006, 110, 21630-21638.	1.2	458
32	Silk Materials â€" A Road to Sustainable High Technology. Advanced Materials, 2012, 24, 2824-2837.	11.1	456
33	Nanofibrils in nature and materials engineering. Nature Reviews Materials, 2018, 3, .	23.3	455
34	Villification: How the Gut Gets Its Villi. Science, 2013, 342, 212-218.	6.0	454
35	Agarose-based biomaterials for tissue engineering. Carbohydrate Polymers, 2018, 187, 66-84.	5.1	454
36	Design of biodegradable, implantable devices towards clinical translation. Nature Reviews Materials, 2020, 5, 61-81.	23.3	440

#	ARTICLE	IF	CITATIONS
37	Controlling silk fibroin particle features for drug delivery. Biomaterials, 2010, 31, 4583-4591.	5.7	433
38	In vitro cartilage tissue engineering with 3D porous aqueous-derived silk scaffolds and mesenchymal stem cells. Biomaterials, 2005, 26, 7082-7094.	5.7	412
39	Biomedical applications of chemically-modified silk fibroin. Journal of Materials Chemistry, 2009, 19, 6443.	6.7	411
40	Role of Membrane Potential in the Regulation of Cell Proliferation and Differentiation. Stem Cell Reviews and Reports, 2009, 5, 231-246.	5.6	388
41	Cartilage tissue engineering with silk scaffolds and human articular chondrocytes. Biomaterials, 2006, 27, 4434-4442.	5.7	386
42	Growth factor gradients via microsphere delivery in biopolymer scaffolds for osteochondral tissue engineering. Journal of Controlled Release, 2009, 134, 81-90.	4.8	385
43	Electrospun silk biomaterial scaffolds for regenerative medicine. Advanced Drug Delivery Reviews, 2009, 61, 988-1006.	6.6	385
44	Silk nanospheres and microspheres from silk/pva blend films for drug delivery. Biomaterials, 2010, 31, 1025-1035.	5.7	372
45	Silk film biomaterials for cornea tissue engineering. Biomaterials, 2009, 30, 1299-1308.	5.7	362
46	InÂvivo bioresponses to silk proteins. Biomaterials, 2015, 71, 145-157.	5.7	357
47	Engineering adipose-like tissue in vitro and in vivo utilizing human bone marrow and adipose-derived mesenchymal stem cells with silk fibroin 3D scaffolds. Biomaterials, 2007, 28, 5280-5290.	5.7	340
48	Highly Tunable Elastomeric Silk Biomaterials. Advanced Functional Materials, 2014, 24, 4615-4624.	7.8	338
49	High-strength silk protein scaffolds for bone repair. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 7699-7704.	3.3	337
50	Control of in vitro tissue-engineered bone-like structures using human mesenchymal stem cells and porous silk scaffolds. Biomaterials, 2007, 28, 1152-1162.	5.7	335
51	Silkâ€Based Conformal, Adhesive, Edible Food Sensors. Advanced Materials, 2012, 24, 1067-1072.	11.1	335
52	Overview of Silk Fibroin Use in Wound Dressings. Trends in Biotechnology, 2018, 36, 907-922.	4.9	330
53	Silk-based delivery systems of bioactive molecules. Advanced Drug Delivery Reviews, 2010, 62, 1497-1508.	6.6	324
54	Silkworm silk-based materials and devices generated using bio-nanotechnology. Chemical Society Reviews, 2018, 47, 6486-6504.	18.7	324

#	ARTICLE	IF	CITATIONS
55	Biomaterials for the Development of Peripheral Nerve Guidance Conduits. Tissue Engineering - Part B: Reviews, 2012, 18, 40-50.	2.5	321
56	Silk fibroin/hydroxyapatite composites for bone tissue engineering. Biotechnology Advances, 2018, 36, 68-91.	6.0	320
57	Engineering bone-like tissuein vitro using human bone marrow stem cells and silk scaffolds. Journal of Biomedical Materials Research Part B, 2004, 71A, 25-34.	3.0	319
58	Vortex-Induced Injectable Silk Fibroin Hydrogels. Biophysical Journal, 2009, 97, 2044-2050.	0.2	317
59	Natural protective glue protein, sericin bioengineered by silkworms: Potential for biomedical and biotechnological applications. Progress in Polymer Science, 2008, 33, 998-1012.	11.8	316
60	Scientific, sustainability and regulatory challenges of cultured meat. Nature Food, 2020, 1, 403-415.	6.2	315
61	Tissue Engineering of Ligaments. Annual Review of Biomedical Engineering, 2004, 6, 131-156.	5.7	313
62	Biopolymer nanofibrils: Structure, modeling, preparation, and applications. Progress in Polymer Science, 2018, 85, 1-56.	11.8	312
63	Human bone marrow stromal cell and ligament fibroblast responses on RGD-modified silk fibers. Journal of Biomedical Materials Research Part B, 2003, 67A, 559-570.	3.0	311
64	Biocompatible Silk Printed Optical Waveguides. Advanced Materials, 2009, 21, 2411-2415.	11.1	308
65	A new route for silk. Nature Photonics, 2008, 2, 641-643.	15.6	306
66	Mechanical Properties of Electrospun Silk Fibers. Macromolecules, 2004, 37, 6856-6864.	2.2	297
67	Spider silks and their applications. Trends in Biotechnology, 2008, 26, 244-251.	4.9	291
68	In vitro evaluation of electrospun silk fibroin scaffolds for vascular cell growth. Biomaterials, 2008, 29, 2217-2227.	5.7	289
69	Influence of macroporous protein scaffolds on bone tissue engineering from bone marrow stem cells. Biomaterials, 2005, 26, 4442-4452.	5.7	283
70	Silk-based biomaterials for sustained drug delivery. Journal of Controlled Release, 2014, 190, 381-397.	4.8	283
71	Bioactive Silk Protein Biomaterial Systems for Optical Devices. Biomacromolecules, 2008, 9, 1214-1220.	2.6	281
72	Effect of processing on silkâ€based biomaterials: Reproducibility and biocompatibility. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2011, 99B, 89-101.	1.6	281

#	ARTICLE	IF	CITATIONS
73	Silk-based resorbable electronic devices for remotely controlled therapy and in vivo infection abatement. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 17385-17389.	3.3	281
74	Silk microspheres for encapsulation and controlled release. Journal of Controlled Release, 2007, 117, 360-370.	4.8	276
75	Construction, Cloning, and Expression of Synthetic Genes Encoding Spider Dragline Silk. Biochemistry, 1995, 34, 10879-10885.	1.2	272
76	Bone tissue engineering with premineralized silk scaffolds. Bone, 2008, 42, 1226-1234.	1.4	270
77	Mechanical and thermal properties of dragline silk from the spider Nephila clavipes. Polymers for Advanced Technologies, 1994, 5, 401-410.	1.6	269
78	Functionalized Silk Biomaterials for Wound Healing. Advanced Healthcare Materials, 2013, 2, 206-217.	3.9	264
79	Directâ€Write Assembly of Microperiodic Silk Fibroin Scaffolds for Tissue Engineering Applications. Advanced Functional Materials, 2008, 18, 1883-1889.	7.8	261
80	Degradation Mechanism and Control of Silk Fibroin. Biomacromolecules, 2011, 12, 1080-1086.	2.6	260
81	Plant-based and cell-based approaches to meat production. Nature Communications, 2020, 11, 6276.	5.8	260
82	The use of injectable sonication-induced silk hydrogel for VEGF165 and BMP-2 delivery for elevation of the maxillary sinus floor. Biomaterials, 2011, 32, 9415-9424.	5.7	255
83	Bioengineered functional brain-like cortical tissue. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13811-13816.	3.3	255
84	Silk fibroin biomaterials for controlled release drug delivery. Expert Opinion on Drug Delivery, 2011, 8, 797-811.	2.4	248
85	Stem cell- and scaffold-based tissue engineering approaches to osteochondral regenerative medicine. Seminars in Cell and Developmental Biology, 2009, 20, 646-655.	2.3	247
86	Protein-based composite materials. Materials Today, 2012, 15, 208-215.	8.3	247
87	Silk fibroin microtubes for blood vessel engineering. Biomaterials, 2007, 28, 5271-5279.	5.7	246
88	Silk-based electrospun tubular scaffolds for tissue-engineered vascular grafts. Journal of Biomaterials Science, Polymer Edition, 2008, 19, 653-664.	1.9	245
89	Silicon electronics on silk as a path to bioresorbable, implantable devices. Applied Physics Letters, 2009, 95, 133701.	1.5	245
90	Fabrication of Silk Microneedles for Controlledâ€Release Drug Delivery. Advanced Functional Materials, 2012, 22, 330-335.	7.8	245

#	ARTICLE	IF	CITATIONS
91	All-water-based electron-beam lithography using silk as a resist. Nature Nanotechnology, 2014, 9, 306-310.	15.6	245
92	Modification of silk fibroin using diazonium coupling chemistry and the effects on hMSC proliferation and differentiation. Biomaterials, 2008, 29, 2829-2838.	5.7	243
93	Role of Adult Mesenchymal Stem Cells in Bone Tissue Engineering Applications: Current Status and Future Prospects. Tissue Engineering, 2005, 11, 787-802.	4.9	240
94	Mapping Domain Structures in Silks from Insects and Spiders Related to Protein Assembly. Journal of Molecular Biology, 2004, 335, 27-40.	2.0	238
95	Nucleation and growth of mineralized bone matrix on silk-hydroxyapatite composite scaffolds. Biomaterials, 2011, 32, 2812-2820.	5.7	238
96	Evolution of Bioinks and Additive Manufacturing Technologies for 3D Bioprinting. ACS Biomaterials Science and Engineering, 2016, 2, 1662-1678.	2.6	237
97	Silk-Based Advanced Materials for Soft Electronics. Accounts of Chemical Research, 2019, 52, 2916-2927.	7.6	232
98	Enzymatically crosslinked silk-hyaluronic acid hydrogels. Biomaterials, 2017, 131, 58-67.	5.7	228
99	Mechanism of enzymatic degradation of beta-sheet crystals. Biomaterials, 2010, 31, 2926-2933.	5.7	227
100	Natural and genetically engineered proteins for tissue engineering. Progress in Polymer Science, 2012, 37, 1-17.	11.8	227
101	Synthesis and characterization of polymers produced by horseradish peroxidase in dioxane. Journal of Polymer Science Part A, 1991, 29, 1561-1574.	2.5	225
102	Lyophilized silk fibroin hydrogels for the sustained local delivery of therapeutic monoclonal antibodies. Biomaterials, 2011, 32, 2642-2650.	5.7	225
103	Biomaterial Films ofBombyxMoriSilk Fibroin with Poly(ethylene oxide). Biomacromolecules, 2004, 5, 711-717.	2.6	224
104	Design and function of biomimetic multilayer water purification membranes. Science Advances, 2017, 3, e1601939.	4.7	221
105	Silk microfiber-reinforced silk hydrogel composites for functional cartilage tissue repair. Acta Biomaterialia, 2015, 11, 27-36.	4.1	220
106	Silk inverse opals. Nature Photonics, 2012, 6, 818-823.	15.6	217
107	Quantitative metabolic imaging using endogenous fluorescence to detect stem cell differentiation. Scientific Reports, 2013, 3, 3432.	1.6	215
108	Adipose Tissue Engineering for Soft Tissue Regeneration. Tissue Engineering - Part B: Reviews, 2010, 16, 413-426.	2.5	212

#	ARTICLE	IF	CITATIONS
109	Metamaterials on Paper as a Sensing Platform. Advanced Materials, 2011, 23, 3197-3201.	11.1	210
110	Development of silk-based scaffolds for tissue engineering of bone from human adipose-derived stem cells. Acta Biomaterialia, 2012, 8, 2483-2492.	4.1	210
111	Electrical and mechanical stimulation of cardiac cells and tissue constructs. Advanced Drug Delivery Reviews, 2016, 96, 135-155.	6.6	210
112	Can tissue engineering concepts advance tumor biology research?. Trends in Biotechnology, 2010, 28, 125-133.	4.9	208
113	Polymorphic regenerated silk fibers assembled through bioinspired spinning. Nature Communications, 2017, 8, 1387.	5.8	208
114	Membrane Potential Controls Adipogenic and Osteogenic Differentiation of Mesenchymal Stem Cells. PLoS ONE, 2008, 3, e3737.	1.1	206
115	Structureâ€"functionâ€"propertyâ€"design interplay in biopolymers: Spider silk. Acta Biomaterialia, 2014, 10, 1612-1626.	4.1	206
116	Epigenetic changes induced by adenosine augmentation therapy prevent epileptogenesis. Journal of Clinical Investigation, 2013, 123, 3552-3563.	3.9	206
117	Porous silk fibroin 3-D scaffolds for delivery of bone morphogenetic protein-2in vitro andin vivo. Journal of Biomedical Materials Research - Part A, 2006, 78A, 324-334.	2.1	201
118	Tunable Self-Assembly of Genetically Engineered Silkâ€"Elastin-like Protein Polymers. Biomacromolecules, 2011, 12, 3844-3850.	2.6	199
119	Enzyme-Catalyzed .epsilon.-Caprolactone Ring-Opening Polymerization. Macromolecules, 1995, 28, 73-78.	2.2	198
120	3D in vitro modeling of the central nervous system. Progress in Neurobiology, 2015, 125, 1-25.	2.8	196
121	Advanced Bioreactor with Controlled Application of Multi-Dimensional Strain For Tissue Engineering. Journal of Biomechanical Engineering, 2002, 124, 742-749.	0.6	195
122	Novel nanocomposites from spider silk-silica fusion (chimeric) proteins. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 9428-9433.	3.3	194
123	Mandibular repair in rats with premineralized silk scaffolds and BMP-2-modified bMSCs. Biomaterials, 2009, 30, 4522-4532.	5.7	194
124	RGD-Functionalized Bioengineered Spider Dragline Silk Biomaterial. Biomacromolecules, 2006, 7, 3139-3145.	2.6	193
125	pHâ€Dependent Anticancer Drug Release from Silk Nanoparticles. Advanced Healthcare Materials, 2013, 2, 1606-1611.	3.9	192
126	Carbonization of a stable Î²-sheet-rich silk protein into a pseudographitic pyroprotein. Nature Communications, 2015, 6, 7145.	5.8	192

#	ARTICLE	IF	CITATIONS
127	Silk based bioinks for soft tissue reconstruction using 3-dimensional (3D) printing with inÂvitro and inÂvivo assessments. Biomaterials, 2017, 117, 105-115.	5.7	189
128	The influence of elasticity and surface roughness on myogenic and osteogenic-differentiation of cells on silk-elastin biomaterials. Biomaterials, 2011, 32, 8979-8989.	5.7	188
129	Enzyme-Catalyzed Ring-Opening Polymerization of Ï‰-Pentadecalactoneâ€. Macromolecules, 1997, 30, 2705-2711.	2.2	187
130	Insoluble and Flexible Silk Films Containing Glycerol. Biomacromolecules, 2010, 11, 143-150.	2.6	187
131	Concise Review: Mesenchymal Stem Cell Tumor-Homing: Detection Methods in Disease Model Systems. Stem Cells, 2011, 29, 920-927.	1.4	185
132	Potential of 3-D tissue constructs engineered from bovine chondrocytes/silk fibroin-chitosan for inÂvitro cartilage tissue engineering. Biomaterials, 2011, 32, 5773-5781.	5.7	184
133	Genetic engineering of fibrous proteins: spider dragline silk and collagen. Advanced Drug Delivery Reviews, 2002, 54, 1131-1143.	6.6	183
134	Silk Fibroin Microfluidic Devices. Advanced Materials, 2007, 19, 2847-2850.	11.1	182
135	Cartilage-like Tissue Engineering Using Silk Scaffolds and Mesenchymal Stem Cells. Tissue Engineering, 2006, 12, 2729-2738.	4.9	181
136	Silk coatings on PLGA and alginate microspheres for protein delivery. Biomaterials, 2007, 28, 4161-4169.	5.7	181
137	Nanoâ€•and Micropatterning of Optically Transparent, Mechanically Robust, Biocompatible Silk Fibroin Films. Advanced Materials, 2008, 20, 3070-3072.	11.1	181
138	Multilayered silk scaffolds for meniscus tissue engineering. Biomaterials, 2011, 32, 639-651.	5.7	181
139	Silk Self-Assembly Mechanisms and Control From Thermodynamics to Kinetics. Biomacromolecules, 2012, 13, 826-832.	2.6	180
140	Bioâ€•microfluidics: Biomaterials and Biomimetic Designs. Advanced Materials, 2010, 22, 249-260.	11.1	178
141	Human Bone Marrowâ€“Derived MSCs Can Home to Orthotopic Breast Cancer Tumors and Promote Bone Metastasis. Cancer Research, 2010, 70, 10044-10050.	0.4	177
142	3D Bioprinting of Selfâ€•Standing Silkâ€•Based Bioink. Advanced Healthcare Materials, 2018, 7, e1701026.	3.9	177
143	Silk fibroin/chondroitin sulfate/hyaluronic acid ternary scaffolds for dermal tissue reconstruction. Acta Biomaterialia, 2013, 9, 6771-6782.	4.1	176
144	Stabilization of Enzymes in Silk Films. Biomacromolecules, 2009, 10, 1032-1042.	2.6	174

#	ARTICLE	IF	CITATIONS
145	Inkjet Printing of Regenerated Silk Fibroin: From Printable Forms to Printable Functions. Advanced Materials, 2015, 27, 4273-4279.	11.1	174
146	Injectable and pH-Responsive Silk Nanofiber Hydrogels for Sustained Anticancer Drug Delivery. ACS Applied Materials & Interfaces, 2016, 8, 17118-17126.	4.0	172
147	Osteogenesis by human mesenchymal stem cells cultured on silk biomaterials: Comparison of adenovirus mediated gene transfer and protein delivery of BMP-2. Biomaterials, 2006, 27, 4993-5002.	5.7	171
148	Processing methods to control silk fibroin film biomaterial features. Journal of Materials Science, 2008, 43, 6967-6985.	1.7	170
149	In vitro and in vivo evaluation of differentially demineralized cancellous bone scaffolds combined with human bone marrow stromal cells for tissue engineering. Biomaterials, 2005, 26, 3173-3185.	5.7	169
150	Collagen structural hierarchy and susceptibility to degradation by ultraviolet radiation. Materials Science and Engineering C, 2008, 28, 1420-1429.	3.8	168
151	Electrogelation for Protein Adhesives. Advanced Materials, 2010, 22, 711-715.	11.1	168
152	Biomaterials from Ultrasonication-Induced Silk Fibroinâ"Hyaluronic Acid Hydrogels. Biomacromolecules, 2010, 11, 3178-3188.	2.6	168
153	Biomaterial Coatings by Stepwise Deposition of Silk Fibroin. Langmuir, 2005, 21, 11335-11341.	1.6	167
154	Silk hydrogel for cartilage tissue engineering. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2010, 95B, 84-90.	1.6	167
155	Nanolayer biomaterial coatings of silk fibroin for controlled release. Journal of Controlled Release, 2007, 121, 190-199.	4.8	164
156	Helicoidal multi-lamellar features of RGD-functionalized silk biomaterials for corneal tissue engineering. Biomaterials, 2010, 31, 8953-8963.	5.7	164
157	Antibioticâ€Releasing Silk Biomaterials for Infection Prevention and Treatment. Advanced Functional Materials, 2013, 23, 854-861.	7.8	164
158	Enzymatically crosslinked silk and silk-gelatin hydrogels with tunable gelation kinetics, mechanical properties and bioactivity for cell culture and encapsulation. Biomaterials, 2020, 232, 119720.	5.7	163
159	Relationships Between Mechanical Properties and Extracellular Matrix Constituents of the Cervical Stroma During Pregnancy. Seminars in Perinatology, 2009, 33, 300-307.	1.1	161
160	The use of silk-based devices for fracture fixation. Nature Communications, 2014, 5, 3385.	5.8	160
161	Template-directed synthesis of aragonite under supramolecular hydrogen-bonded langmuir monolayers. Advanced Materials, 1997, 9, 124-127.	11.1	159
162	Recombinant Spidroins Fully Replicate Primary Mechanical Properties of Natural Spider Silk. Biomacromolecules, 2018, 19, 3853-3860.	2.6	159

#	ARTICLE	IF	CITATIONS
163	A 3D human brainâ€“like tissue model of herpes-induced Alzheimerâ€™s disease. Science Advances, 2020, 6, eaay8828.	4.7	159
164	Performance enhancement of terahertz metamaterials on ultrathin substrates for sensing applications. Applied Physics Letters, 2010, 97, .	1.5	158
165	Silk Hydrogels as Soft Substrates for Neural Tissue Engineering. Advanced Functional Materials, 2013, 23, 5140-5149.	7.8	157
166	Lipase-Catalyzed Ring-Opening Polymerization of Trimethylene Carbonateâ€. Macromolecules, 1997, 30, 7735-7742.	2.2	156
167	Protein-Based Block Copolymers. Biomacromolecules, 2011, 12, 269-289.	2.6	155
168	NF-Î°B signaling is key in the wound healing processes of silk fibroin. Acta Biomaterialia, 2018, 67, 183-195.	4.1	155
169	Tunable Silk: Using Microfluidics to Fabricate Silk Fibers with Controllable Properties. Biomacromolecules, 2011, 12, 1504-1511.	2.6	154
170	Enhanced function of pancreatic islets co-encapsulated with ECM proteins and mesenchymal stromal cells in a silk hydrogel. Biomaterials, 2012, 33, 6691-6697.	5.7	154
171	Polyvinyl Alcohol/Silk Fibroin/Borax Hydrogel Ionotronics: A Highly Stretchable, Self-Healable, and Biocompatible Sensing Platform. ACS Applied Materials & Interfaces, 2019, 11, 23632-23638.	4.0	154
172	Recombinant <scp>DNA</scp> production of spider silk proteins. Microbial Biotechnology, 2013, 6, 651-663.	2.0	153
173	Dynamic culture conditions to generate silk-based tissue-engineered vascular grafts. Biomaterials, 2009, 30, 3213-3223.	5.7	149
174	Critical-size calvarial bone defects healing in a mouse model with silk scaffolds and SATB2-modified iPSCs. Biomaterials, 2011, 32, 5065-5076.	5.7	148
175	Stabilization of vaccines and antibiotics in silk and eliminating the cold chain. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 11981-11986.	3.3	148
176	Integration of Stiff Graphene and Tough Silk for the Design and Fabrication of Versatile Electronic Materials. Advanced Functional Materials, 2018, 28, 1705291.	7.8	148
177	Tubular silk scaffolds for small diameter vascular grafts. Organogenesis, 2010, 6, 217-224.	0.4	147
178	Elasticity Maps of Living Neurons Measured by Combined Fluorescence and Atomic Force Microscopy. Biophysical Journal, 2012, 103, 868-877.	0.2	147
179	Relationships between degradability of silk scaffolds and osteogenesis. Biomaterials, 2010, 31, 6162-6172.	5.7	146
180	Corneal Tissue Engineering: Recent Advances and Future Perspectives. Tissue Engineering - Part B: Reviews, 2015, 21, 278-287.	2.5	146

#	ARTICLE	IF	CITATIONS
181	Lyophilized Silk Sponges: A Versatile Biomaterial Platform for Soft Tissue Engineering. ACS Biomaterials Science and Engineering, 2015, 1, 260-270.	2.6	146
182	Ultrathin Free-Standing <i>Bombyx mori</i> Silk Nanofibril Membranes. Nano Letters, 2016, 16, 3795-3800.	4.5	146
183	Functional, RFâ€Trilayer Sensors for Toothâ€Mounted, Wireless Monitoring of the Oral Cavity and Food Consumption. Advanced Materials, 2018, 30, e1703257.	11.1	146
184	Production of Curcumin-Loaded Silk Fibroin Nanoparticles for Cancer Therapy. Nanomaterials, 2018, 8, 126.	1.9	144
185	Beating the Heat - Fast Scanning Melts Silk Beta Sheet Crystals. Scientific Reports, 2013, 3, 1130.	1.6	143
186	Impact of silk biomaterial structure on proteolysis. Acta Biomaterialia, 2015, 11, 212-221.	4.1	142
187	Ethyl Glucoside as a Multifunctional Initiator for Enzyme-Catalyzed Regioselective Lactone Ring-Opening Polymerization. Journal of the American Chemical Society, 1998, 120, 1363-1367.	6.6	141
188	Biomaterials derived from silkâ€“tropoelastin protein systems. Biomaterials, 2010, 31, 8121-8131.	5.7	141
189	Clinical correlates in an experimental model of repetitive mild brain injury. Annals of Neurology, 2013, 74, 65-75.	2.8	141
190	Mechanism of resilin elasticity. Nature Communications, 2012, 3, 1003.	5.8	140
191	Programmable 3D silk bone marrow niche for platelet generation ex vivo and modeling of megakaryopoiesis pathologies. Blood, 2015, 125, 2254-2264.	0.6	140
192	Rapid Nanoimprinting of Silk Fibroin Films for Biophotonic Applications. Advanced Materials, 2010, 22, 1746-1749.	11.1	139
193	Silk fibroin for skin injury repair: Where do things stand?. Advanced Drug Delivery Reviews, 2020, 153, 28-53.	6.6	139
194	Physical and chemical aspects of stabilization of compounds in silk. Biopolymers, 2012, 97, 479-498.	1.2	138
195	Thermoplastic moulding of regenerated silk. Nature Materials, 2020, 19, 102-108.	13.3	138
196	Directâ€Write Assembly of 3D Silk/Hydroxyapatite Scaffolds for Bone Coâ€Cultures. Advanced Healthcare Materials, 2012, 1, 729-735.	3.9	136
197	Sustainable Release of Vancomycin from Silk Fibroin Nanoparticles for Treating Severe Bone Infection in Rat Tibia Osteomyelitis Model. ACS Applied Materials & Interfaces, 2017, 9, 5128-5138.	4.0	135
198	Two-Photon Microscopy for Non-Invasive, Quantitative Monitoring of Stem Cell Differentiation. PLoS ONE, 2010, 5, e10075.	1.1	134

#	ARTICLE	IF	CITATIONS
199	Tissue engineering strategies to study cartilage development, degeneration and regeneration. Advanced Drug Delivery Reviews, 2015, 84, 107-122.	6.6	134
200	Liquid Exfoliated Natural Silk Nanofibrils: Applications in Optical and Electrical Devices. Advanced Materials, 2016, 28, 7783-7790.	11.1	134
201	Directed assembly of bio-inspired hierarchical materials with controlled nanofibrillar architectures. Nature Nanotechnology, 2017, 12, 474-480.	15.6	134
202	Engineering custom-designed osteochondral tissue grafts. Trends in Biotechnology, 2008, 26, 181-189.	4.9	133
203	Osteoinductive silkâ€“silica composite biomaterials for bone regeneration. Biomaterials, 2010, 31, 8902-8910.	5.7	133
204	Highâ€•Strength, Durable Allâ€•Silk Fibroin Hydrogels with Versatile Processability toward Multifunctional Applications. Advanced Functional Materials, 2018, 28, 1704757.	7.8	133
205	Bone Regeneration on Macroporous Aqueous-Derived Silk 3-D Scaffolds. Macromolecular Bioscience, 2007, 7, 643-655.	2.1	132
206	Selfâ€•Assembling Doxorubicin Silk Hydrogels for the Focal Treatment of Primary Breast Cancer. Advanced Functional Materials, 2013, 23, 58-65.	7.8	132
207	Vascularization of hollow channel-modified porous silk scaffolds with endothelial cells for tissue regeneration. Biomaterials, 2015, 56, 68-77.	5.7	132
208	Photocrosslinking of Silk Fibroin Using Riboflavin for Ocular Prostheses. Advanced Materials, 2016, 28, 2417-2420.	11.1	132
209	Controlled Free-Radical Polymerization of Phenol Derivatives by Enzyme-Catalyzed Reactions in Organic Solvents. Macromolecules, 1995, 28, 5192-5197.	2.2	131
210	Enzyme-Catalyzed Polymerizations of Îµ-Caprolactone:Â Effects of Initiator on Product Structure, Propagation Kinetics, and Mechanism. Macromolecules, 1996, 29, 7759-7766.	2.2	131
211	Silk polymer-based adenosine release: Therapeutic potential for epilepsy. Biomaterials, 2008, 29, 3609-3616.	5.7	131
212	Gel spinning of silk tubes for tissue engineering. Biomaterials, 2008, 29, 4650-4657.	5.7	131
213	Robust bioengineered 3D functional human intestinal epithelium. Scientific Reports, 2015, 5, 13708.	1.6	131
214	Silkâ€•Based Biomaterials in Biomedical Textiles and Fiberâ€•Based Implants. Advanced Healthcare Materials, 2015, 4, 1134-1151.	3.9	130
215	Effect of Hydration on Silk Film Material Properties. Macromolecular Bioscience, 2010, 10, 393-403.	2.1	129
216	Silk fibroin electrogelation mechanisms. Acta Biomaterialia, 2011, 7, 2394-2400.	4.1	128

#	ARTICLE	IF	CITATIONS
217	<i>In Vitro</i>3D Model for Human Vascularized Adipose Tissue. Tissue Engineering - Part A, 2009, 15, 2227-2236.	1.6	127
218	Stabilization and Release of Enzymes from Silk Films. Macromolecular Bioscience, 2010, 10, 359-368.	2.1	127
219	Sodium dodecyl sulfate-induced rapid gelation of silk fibroin. Acta Biomaterialia, 2012, 8, 2185-2192.	4.1	127
220	The Use of Functionalized Silk Fibroin Films as a Platform for Optical Diffractionâ€Based Sensing Applications. Advanced Materials, 2017, 29, 1605471.	11.1	127
221	Evidence of a Cholesteric Liquid Crystalline Phase in Natural Silk Spinning Processes. Macromolecules, 1996, 29, 5106-5110.	2.2	126
222	Effect of Scaffold Design on Bone MorphologyIn Vitro. Tissue Engineering, 2006, 12, 3417-3429.	4.9	126
223	Hydrophobic Drug-Triggered Self-Assembly of Nanoparticles from Silk-Elastin-Like Protein Polymers for Drug Delivery. Biomacromolecules, 2014, 15, 908-914.	2.6	126
224	Matrix-mediated retention of adipogenic differentiation potential by human adult bone marrow-derived mesenchymal stem cells during ex vivo expansion. Biomaterials, 2005, 26, 6167-6175.	5.7	125
225	The effect of genetically engineered spider silk-dentin matrix protein 1 chimeric protein on hydroxyapatite nucleation. Biomaterials, 2007, 28, 2358-2367.	5.7	125
226	Response of Human Corneal Fibroblasts on Silk Film Surface Patterns. Macromolecular Bioscience, 2010, 10, 664-673.	2.1	124
227	Laser-based three-dimensional multiscale micropatterning of biocompatible hydrogels for customized tissue engineering scaffolds. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12052-12057.	3.3	122
228	Dityrosine Cross-Linking in Designing Biomaterials. ACS Biomaterials Science and Engineering, 2016, 2, 2108-2121.	2.6	121
229	Biological Material Interfaces as Inspiration for Mechanical and Optical Material Designs. Chemical Reviews, 2019, 119, 12279-12336.	23.0	121
230	Design, Fabrication, and Function of Silkâ€Based Nanomaterials. Advanced Functional Materials, 2018, 28, 1805305.	7.8	120
231	Mechanisms and Control of Silk-Based Electrospinning. Biomacromolecules, 2012, 13, 798-804.	2.6	119
232	Clinical Applications of Naturally Derived Biopolymer-Based Scaffolds for Regenerative Medicine. Annals of Biomedical Engineering, 2015, 43, 657-680.	1.3	119
233	Tissue-Engineered Bone Serves as a Target for Metastasis of Human Breast Cancer in a Mouse Model. Cancer Research, 2007, 67, 10304-10308.	0.4	118
234	Bioengineered silk protein-based gene delivery systems. Biomaterials, 2009, 30, 5775-5784.	5.7	118

#	ARTICLE	IF	CITATIONS
235	Expression, Cross-Linking, and Characterization of Recombinant Chitin Binding Resilin. Biomacromolecules, 2009, 10, 3227-3234.	2.6	118
236	Preparation of uniaxial multichannel silk fibroin scaffolds for guiding primary neurons. Acta Biomaterialia, 2012, 8, 2628-2638.	4.1	118
237	Predictive modelling-based design and experiments for synthesis and spinning of bioinspired silk fibres. Nature Communications, 2015, 6, 6892.	5.8	118
238	Production of Submicron Diameter Silk Fibers under Benign Processing Conditions by Two-Fluid Electrospinning. Macromolecules, 2006, 39, 1102-1107.	2.2	117
239	Structural Origins of Silk Piezoelectricity. Advanced Functional Materials, 2011, 21, 779-785.	7.8	117
240	Silk-based stabilization of biomacromolecules. Journal of Controlled Release, 2015, 219, 416-430.	4.8	117
241	Guide to collagen characterization for biomaterial studies. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2008, 87B, 264-285.	1.6	116
242	Comparative chondrogenesis of human cell sources in 3D scaffolds. Journal of Tissue Engineering and Regenerative Medicine, 2009, 3, 348-360.	1.3	116
243	A complex 3D human tissue culture system based on mammary stromal cells and silk scaffolds for modeling breast morphogenesis and function. Biomaterials, 2010, 31, 3920-3929.	5.7	116
244	Reproductive potential of the earthworm Eisenia foetida. Oecologia, 1979, 43, 329-340.	0.9	115
245	Self-Assembly of Genetically Engineered Spider Silk Block Copolymers. Biomacromolecules, 2009, 10, 229-236.	2.6	115
246	Megakaryocytes Contribute to the Bone Marrow-Matrix Environment by Expressing Fibronectin, Type IV Collagen, and Laminin. Stem Cells, 2014, 32, 926-937.	1.4	115
247	Osteogenic Differentiation of Human Bone Marrow Stromal Cells on Partially Demineralized Bone Scaffoldsin Vitro. Tissue Engineering, 2004, 10, 81-92.	4.9	114
248	Electrospun Silk Material Systems for Wound Healing. Macromolecular Bioscience, 2010, 10, 246-257.	2.1	114
249	A silk-based scaffold platform with tunable architecture for engineering critically-sized tissue constructs. Biomaterials, 2012, 33, 9214-9224.	5.7	114
250	Characterization and optimization of RGD-containing silk blends to support osteoblastic differentiation. Biomaterials, 2008, 29, 2556-2563.	5.7	113
251	In vitro 3D Fullâ€Thickness Skinâ€Equivalent Tissue Model Using Silk and Collagen Biomaterials. Macromolecular Bioscience, 2012, 12, 1627-1636.	2.1	113
252	Enzyme-Catalyzed Stereoelective Ring-Opening Polymerization of Î±-Methyl-Î²-propiolactone. Macromolecules, 1996, 29, 4591-4597.	2.2	112

#	ARTICLE	IF	CITATIONS
253	Ingrowth of human mesenchymal stem cells into porous silk particle reinforced silk composite scaffolds: An in vitro study. Acta Biomaterialia, 2011, 7, 144-151.	4.1	112
254	Implantable, multifunctional, bioresorbable optics. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19584-19589.	3.3	112
255	Silk as a Multifunctional Biomaterial Substrate for Reduced Glial Scarring around Brainâ€Penetrating Electrodes. Advanced Functional Materials, 2013, 23, 3185-3193.	7.8	111
256	Physicochemical requirements in the environment of the earthworm Eisenia foetida. Soil Biology and Biochemistry, 1980, 12, 347-352.	4.2	110
257	Controlled release from multilayer silk biomaterial coatings to modulate vascular cell responses. Biomaterials, 2008, 29, 894-903.	5.7	110
258	Osteoblastic differentiation and stress response of human mesenchymal stem cells exposed to alternating current electric fields. BioMedical Engineering OnLine, 2011, 10, 9.	1.3	110
259	Reversible Hydrogelâ€"Solution System of Silk with High Beta-Sheet Content. Biomacromolecules, 2014, 15, 3044-3051.	2.6	110
260	Tropoelastin: A versatile, bioactive assembly module. Acta Biomaterialia, 2014, 10, 1532-1541.	4.1	110
261	Controlled release of cytokines using silk-biomaterials for macrophage polarization. Biomaterials, 2015, 73, 272-283.	5.7	110
262	Apatite-coated silk fibroin scaffolds to healing mandibular border defects in canines. Bone, 2009, 45, 517-527.	1.4	109
263	Reinforcing Silk Scaffolds with Silk Particles. Macromolecular Bioscience, 2010, 10, 599-611.	2.1	109
264	Investigating osteogenic differentiation in multiple myeloma using a novel 3D bone marrow niche model. Blood, 2014, 124, 3250-3259.	0.6	109
265	Synthesis of Superparamagnetic Polymerâˆ’Ferrite Composites Using Surfactant Microstructures. Chemistry of Materials, 1996, 8, 801-809.	3.2	108
266	Nanofibrous architecture of silk fibroin scaffolds prepared with a mild self-assembly process. Biomaterials, 2011, 32, 1059-1067.	5.7	108
267	Engineered cell and tissue models of pulmonary fibrosis. Advanced Drug Delivery Reviews, 2018, 129, 78-94.	6.6	108
268	Injectable silk-polyethylene glycol hydrogels. Acta Biomaterialia, 2015, 12, 51-61.	4.1	106
269	Bioengineered 3D Human Kidney Tissue, a Platform for the Determination of Nephrotoxicity. PLoS ONE, 2013, 8, e59219.	1.1	105
270	Chip-Based Comparison of the Osteogenesis of Human Bone Marrow- and Adipose Tissue-Derived Mesenchymal Stem Cells under Mechanical Stimulation. PLoS ONE, 2012, 7, e46689.	1.1	104

#	ARTICLE	IF	CITATIONS
271	Silk-elastin-like protein biomaterials for the controlled delivery of therapeutics. Expert Opinion on Drug Delivery, 2015, 12, 779-791.	2.4	104
272	Permeability of bacterial cellulose membranes. Journal of Membrane Science, 2006, 272, 15-27.	4.1	103
273	Catalytic and interfacial aspects of enzymatic polymer synthesis in reversed micellar systems. Biotechnology and Bioengineering, 1993, 41, 531-540.	1.7	102
274	Metamaterial Silk Composites at Terahertz Frequencies. Advanced Materials, 2010, 22, 3527-3531.	11.1	102
275	Silk Fibroin Aqueous-Based Adhesives Inspired by Mussel Adhesive Proteins. Biomacromolecules, 2016, 17, 237-245.	2.6	102
276	Bio-functionalized silk hydrogel microfluidic systems. Biomaterials, 2016, 93, 60-70.	5.7	101
277	Novel <i>In Vivo</i> -Degradable Cellulose-Chitin Copolymer from Metabolically Engineered <i>Gluconacetobacter xylinus</i>. Applied and Environmental Microbiology, 2010, 76, 6257-6265.	1.4	100
278	Silk constructs for delivery of musculoskeletal therapeutics. Advanced Drug Delivery Reviews, 2012, 64, 1111-1122.	6.6	100
279	Doxorubicin-loaded silk films: Drug-silk interactions and inÂvivo performance in human orthotopic breast cancer. Biomaterials, 2012, 33, 8442-8450.	5.7	100
280	Regeneration of high-quality silk fibroin fiber by wet spinning from CaCl 2 â€“formic acid solvent. Acta Biomaterialia, 2015, 12, 139-145.	4.1	100
281	Fetal Brain Extracellular Matrix Boosts Neuronal Network Formation in 3D Bioengineered Model of Cortical Brain Tissue. ACS Biomaterials Science and Engineering, 2016, 2, 131-140.	2.6	100
282	Antiepileptic effects of silk-polymer based adenosine release in kindled rats. Experimental Neurology, 2009, 219, 126-135.	2.0	99
283	Printing of stretchable silk membranes for strain measurements. Lab on A Chip, 2016, 16, 2459-2466.	3.1	99
284	Nanoscale Silkâ€“Hydroxyapatite Hydrogels for Injectable Bone Biomaterials. ACS Applied Materials & Interfaces, 2017, 9, 16913-16921.	4.0	99
285	Enzymatic Degradation of <i>Bombyx mori</i> Silk Materials: A Review. Biomacromolecules, 2020, 21, 1678-1686.	2.6	99
286	Lessons from seashells: silica mineralization via protein templating. Trends in Biotechnology, 2004, 22, 577-585.	4.9	98
287	Matrix-mediated retention of osteogenic differentiation potential by human adult bone marrow stromal cells during ex vivo expansion. Biomaterials, 2004, 25, 3233-3243.	5.7	98
288	Matrix Metalloproteinases and Their Clinical Applications in Orthopaedics. Clinical Orthopaedics and Related Research, 2004, 428, 272-285.	0.7	98

#	ARTICLE	IF	CITATIONS
289	Multifunctional silkâ€"heparin biomaterials for vascular tissue engineering applications. Biomaterials, 2014, 35, 83-91.	5.7	98
290	Silk dissolution and regeneration at the nanofibril scale. Journal of Materials Chemistry B, 2014, 2, 3879.	2.9	98
291	Scaffold-based regeneration of skeletal tissues to meet clinical challenges. Journal of Materials Chemistry B, 2014, 2, 7272-7306.	2.9	98
292	InÂvitro 3D corneal tissue model with epithelium, stroma, and innervation. Biomaterials, 2017, 112, 1-9.	5.7	98
293	Programmable Hydrogel Ionic Circuits for Biologically Matched Electronic Interfaces. Advanced Materials, 2018, 30, e1800598.	11.1	98
294	Design and Fabrication of Silk Templated Electronic Yarns and Applications in Multifunctional Textiles. Matter, 2019, 1, 1411-1425.	5.0	98
295	Selective in Vitro Effect of Peptides on Calcium Carbonate Crystallization. Crystal Growth and Design, 2002, 2, 387-393.	1.4	97
296	Corneal stromal bioequivalents secreted on patterned silk substrates. Biomaterials, 2014, 35, 3744-3755.	5.7	97
297	A silk hydrogel-based delivery system of bone morphogenetic protein for the treatment of large bone defects. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 11, 123-131.	1.5	96
298	Silk hydrogels for sustained ocular delivery of anti-vascular endothelial growth factor (anti-VEGF) therapeutics. European Journal of Pharmaceutics and Biopharmaceutics, 2015, 95, 271-278.	2.0	96
299	Silk Biomaterials with Vascularization Capacity. Advanced Functional Materials, 2016, 26, 421-432.	7.8	96
300	Functionalization of Silk Fibroin Electrospun Scaffolds via BMSC Affinity Peptide Grafting through Oxidative Self-Polymerization of Dopamine for Bone Regeneration. ACS Applied Materials & Interfaces, 2019, 11, 8878-8895.	4.0	96
301	Functionalized 3D-printed silk-hydroxyapatite scaffolds for enhanced bone regeneration with innervation and vascularization. Biomaterials, 2021, 276, 120995.	5.7	96
302	Evaluation of gel spun silk-based biomaterials in a murine model of bladder augmentation. Biomaterials, 2011, 32, 808-818.	5.7	95
303	Mollusc shell structures: novel design strategies for synthetic materials. Current Opinion in Solid State and Materials Science, 1998, 3, 232-236.	5.6	94
304	Spider Silk-Based Gene Carriers for Tumor Cell-Specific Delivery. Bioconjugate Chemistry, 2011, 22, 1605-1610.	1.8	93
305	Purification and biochemical characterization of a 70ÂkDa sericin from tropical tasar silkworm, Antheraea mylitta. Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology, 2007, 147, 129-134.	0.7	92
306	Antimicrobial functionalized genetically engineered spider silk. Biomaterials, 2011, 32, 4255-4266.	5.7	92

#	ARTICLE	IF	CITATIONS
307	Silk I and Silk II studied by fast scanning calorimetry. Acta Biomaterialia, 2017, 55, 323-332.	4.1	92
308	Bilayered vascular grafts based on silk proteins. Acta Biomaterialia, 2013, 9, 8991-9003.	4.1	91
309	Gene delivery mediated by recombinant silk proteins containing cationic and cell binding motifs. Journal of Controlled Release, 2010, 146, 136-143.	4.8	90
310	Recombinant exon-encoded resilins for elastomeric biomaterials. Biomaterials, 2011, 32, 9231-9243.	5.7	90
311	Silk as a Biomaterial to Support Long-Term Three-Dimensional Tissue Cultures. ACS Applied Materials & Interfaces, 2016, 8, 21861-21868.	4.0	90
312	Salt-Leached Silk Scaffolds with Tunable Mechanical Properties. Biomacromolecules, 2012, 13, 3723-3729.	2.6	88
313	Molecular biology of spider silk. Reviews in Molecular Biotechnology, 2000, 74, 85-93.	2.9	87
314	Optical Spectroscopy and Imaging for the Noninvasive Evaluation of Engineered Tissues. Tissue Engineering - Part B: Reviews, 2008, 14, 321-340.	2.5	87
315	In vitro bioengineered model of cortical brain tissue. Nature Protocols, 2015, 10, 1362-1373.	5.5	87
316	Hydrogel Assembly with Hierarchical Alignment by Balancing Electrostatic Forces. Advanced Materials Interfaces, 2016, 3, 1500687.	1.9	87
317	Recent Strategies in Tissue Engineering for Guided Peripheral Nerve Regeneration. Macromolecular Bioscience, 2016, 16, 472-481.	2.1	87
318	Peroxidase-Catalyzed in Situ Polymerization of Surface Orientated Caffeic Acid. Journal of the American Chemical Society, 2005, 127, 11745-11753.	6.6	86
319	Silk fibroin encapsulated powder reservoirs for sustained release of adenosine. Journal of Controlled Release, 2010, 144, 159-167.	4.8	86
320	Clay enriched silk biomaterials for bone formation. Acta Biomaterialia, 2011, 7, 3036-3041.	4.1	86
321	Functional Characterization of Detergent-Decellularized Equine Tendon Extracellular Matrix for Tissue Engineering Applications. PLoS ONE, 2013, 8, e64151.	1.1	86
322	Silkâ€"Its Mysteries, How It Is Made, and How It Is Used. ACS Biomaterials Science and Engineering, 2015, 1, 864-876.	2.6	85
323	Tensan Silk-Inspired Hierarchical Fibers for Smart Textile Applications. ACS Nano, 2018, 12, 6968-6977.	7.3	85
324	Tissue-Engineered Three-Dimensional<i>In Vitro</i>Models for Normal and Diseased Kidney. Tissue Engineering - Part A, 2010, 16, 2821-2831.	1.6	84

#	ARTICLE	IF	CITATIONS
325	Intervertebral Disk Tissue Engineering Using Biphasic Silk Composite Scaffolds. Tissue Engineering - Part A, 2012, 18, 447-458.	1.6	84
326	Biocompatible silk step-index optical waveguides. Biomedical Optics Express, 2015, 6, 4221.	1.5	84
327	Polyol-Silk Bioink Formulations as Two-Part Room-Temperature Curable Materials for 3D Printing. ACS Biomaterials Science and Engineering, 2015, 1, 780-788.	2.6	84
328	Silkâ€“Hydroxyapatite Nanoscale Scaffolds with Programmable Growth Factor Delivery for Bone Repair. ACS Applied Materials & Interfaces, 2016, 8, 24463-24470.	4.0	84
329	Covalently immobilized enzyme gradients within three-dimensional porous scaffolds. Biotechnology and Bioengineering, 2006, 93, 1130-1137.	1.7	83
330	Design of Multistimuli Responsive Hydrogels Using Integrated Modeling and Genetically Engineered Silkâ€“Elastinâ€Like Proteins. Advanced Functional Materials, 2016, 26, 4113-4123.	7.8	83
331	Modulation of Multiscale 3D Lattices through Conformational Control: Painting Silk Inverse Opals with Water and Light. Advanced Materials, 2017, 29, 1702769.	11.1	83
332	3D freeform printing of silk fibroin. Acta Biomaterialia, 2018, 71, 379-387.	4.1	83
333	Simple and effective serum-free medium for sustained expansion of bovine satellite cells for cell cultured meat. Communications Biology, 2022, 5, .	2.0	83
334	Orientation of silk III at the air-water interface. International Journal of Biological Macromolecules, 1999, 24, 237-242.	3.6	82
335	Human mesenchymal stem cell grafts engineered to release adenosine reduce chronic seizures in a mouse model of CA3-selective epileptogenesis. Epilepsy Research, 2009, 84, 238-241.	0.8	82
336	Flexible Silkâ€“Inorganic Nanocomposites: From Transparent to Highly Reflective. Advanced Functional Materials, 2010, 20, 840-846.	7.8	82
337	Reductionâˆ’Oxidation Control of Î²-Sheet Assembly in Genetically Engineered Silk. Biomacromolecules, 2000, 1, 534-542.	2.6	81
338	Non-equilibrium silk fibroin adhesives. Journal of Structural Biology, 2010, 170, 406-412.	1.3	81
339	Anisotropic silk biomaterials containing cardiac extracellular matrix for cardiac tissue engineering. Biomedical Materials (Bristol), 2015, 10, 034105.	1.7	81
340	Nanoscale Control of Silica Particle Formation via Silkâˆ’Silica Fusion Proteins for Bone Regeneration. Chemistry of Materials, 2010, 22, 5780-5785.	3.2	80
341	Silk scaffolds with tunable mechanical capability for cell differentiation. Acta Biomaterialia, 2015, 20, 22-31.	4.1	80
342	Extracellular Heme Proteins Influence Bovine Myosatellite Cell Proliferation and the Color of Cell-Based Meat. Foods, 2019, 8, 521.	1.9	80

#	ARTICLE	IF	CITATIONS
343	3D extracellular matrix microenvironment in bioengineered tissue models of primary pediatric and adult brain tumors. Nature Communications, 2019, 10, 4529.	5.8	80
344	Biological degradation of explosives and chemical agents. Biodegradation, 1992, 3, 369-385.	1.5	79
345	A 3D aligned microfibrous myocardial tissue construct cultured under transient perfusion. Biomaterials, 2011, 32, 5320-5329.	5.7	79
346	Molecular and macro-scale analysis of enzyme-crosslinked silk hydrogels for rational biomaterial design. Acta Biomaterialia, 2017, 63, 76-84.	4.1	79
347	In vitro enteroid-derived three-dimensional tissue model of human small intestinal epithelium with innate immune responses. PLoS ONE, 2017, 12, e0187880.	1.1	79
348	The use of sulfonated silk fibroin derivatives to control binding, delivery and potency of FGF-2 in tissue regeneration. Biomaterials, 2010, 31, 1403-1413.	5.7	78
349	Proteinâ€Protein Nanoimprinting of Silk Fibroin Films. Advanced Materials, 2013, 25, 2409-2414.	11.1	78
350	Arrayed Hollow Channels in Silkâ€Based Scaffolds Provide Functional Outcomes for Engineering Critically Sized Tissue Constructs. Advanced Functional Materials, 2014, 24, 2188-2196.	7.8	78
351	Using flash DSC for determining the liquid state heat capacity of silk fibroin. Thermochimica Acta, 2015, 615, 8-14.	1.2	78
352	Nanoscale probing of electron-regulated structural transitions in silk proteins by near-field IR imaging and nano-spectroscopy. Nature Communications, 2016, 7, 13079.	5.8	78
353	Programming function into mechanical forms by directed assembly of silk bulk materials. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 451-456.	3.3	78
354	Enzyme-Mediated Free Radical Polymerization of Styrene. Biomacromolecules, 2000, 1, 592-596.	2.6	77
355	In vitro model of mesenchymal condensation during chondrogenic development. Biomaterials, 2009, 30, 6530-6540.	5.7	77
356	Green Process to Prepare Silk Fibroin/Gelatin Biomaterial Scaffolds. Macromolecular Bioscience, 2010, 10, 289-298.	2.1	77
357	Low-threshold blue lasing from silk fibroin thin films. Applied Physics Letters, 2012, 101, 091110.	1.5	77
358	Characterization of metabolic changes associated with the functional development of 3D engineered tissues by non-invasive, dynamic measurement of individual cell redox ratios. Biomaterials, 2012, 33, 5341-5348.	5.7	77
359	Silk apatite composites from electrospun fibers. Journal of Materials Research, 2005, 20, 3374-3384.	1.2	76
360	Silk-Based Gene Carriers with Cell Membrane Destabilizing Peptides. Biomacromolecules, 2010, 11, 3189-3195.	2.6	76

#	ARTICLE	IF	CITATIONS
361	Mechanisms of Controlled Release from Silk Fibroin Films. Biomacromolecules, 2011, 12, 804-812.	2.6	76
362	A review of combined experimental and computational procedures for assessing biopolymer structureâ€“processâ€“property relationships. Biomaterials, 2012, 33, 8240-8255.	5.7	76
363	Tissue-engineered kidney disease models. Advanced Drug Delivery Reviews, 2014, 69-70, 67-80.	6.6	76
364	Bone Marrow Osteoblastic Niche: A New Model to Study Physiological Regulation of Megakaryopoiesis. PLoS ONE, 2009, 4, e8359.	1.1	76
365	Silk: molecular organization and control of assembly. Philosophical Transactions of the Royal Society B: Biological Sciences, 2002, 357, 165-167.	1.8	75
366	Delayed transplantation of human marrow stromal cell-seeded scaffolds increases transcallosal neural fiber length, angiogenesis, and hippocampal neuronal survival and improves functional outcome after traumatic brain injury in rats. Brain Research, 2009, 1263, 183-191.	1.1	75
367	Role of Polyalanine Domains in <i>Î²</i>â€Sheet Formation in Spider Silk Block Copolymers. Macromolecular Bioscience, 2010, 10, 49-59.	2.1	75
368	Trigonal Crystal Structure ofBombyx moriSilk Incorporating a Threefold Helical Chain Conformation Found at the Airâˆ’Water Interface. Macromolecules, 1996, 29, 8606-8614.	2.2	74
369	Accurately Shaped Tooth Bud Cellâ€“Derived Mineralized Tissue Formation on Silk Scaffolds. Tissue Engineering - Part A, 2008, 14, 549-557.	1.6	74
370	A Review of the Responses of Two- and Three-Dimensional Engineered Tissues to Electric Fields. Tissue Engineering - Part B: Reviews, 2012, 18, 167-180.	2.5	74
371	Impact of processing parameters on the haemocompatibility of Bombyx mori silk films. Biomaterials, 2012, 33, 1017-1023.	5.7	74
372	Silkâ€Based Nanocomplexes with Tumorâ€Homing Peptides for Tumorâ€Specific Gene Delivery. Macromolecular Bioscience, 2012, 12, 75-82.	2.1	74
373	Effect of Silk Protein Processing on Drug Delivery from Silk Films. Macromolecular Bioscience, 2013, 13, 311-320.	2.1	74
374	A bioreactor system for in vitro tendon differentiation and tendon tissue engineering. Journal of Orthopaedic Research, 2015, 33, 911-918.	1.2	74
375	Strategies for improving the physiological relevance of human engineered tissues. Trends in Biotechnology, 2015, 33, 401-407.	4.9	74
376	Silk-based blood stabilization for diagnostics. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5892-5897.	3.3	74
377	Recent advances in 3D printing with protein-based inks. Progress in Polymer Science, 2021, 115, 101375.	11.8	74
378	Bladder tissue regeneration using acellular bi-layer silk scaffolds in aÂlarge animal model of augmentation cystoplasty. Biomaterials, 2013, 34, 8681-8689.	5.7	73

#	Article	IF	Citations
379	Enhanced cellular adhesion on titanium by silk functionalized with titanium binding and RGD peptides. Acta Biomaterialia, 2013, 9, 4935-4943.	4.1	73
380	Characterization of silk-hyaluronic acid composite hydrogels towards vitreous humor substitutes. Biomaterials, 2020, 233, 119729.	5.7	73
381	Non-invasive characterization of structure and morphology of silk fibroin biomaterials using non-linear microscopy. Biomaterials, 2008, 29, 2015-2024.	5.7	72
382	Inkjet Printing of Silk Nest Arrays for Cell Hosting. Biomacromolecules, 2014, 15, 1428-1435.	2.6	72
383	Silk-Backed Structural Optimization of High-Density Flexible Intracortical Neural Probes. Journal of Microelectromechanical Systems, 2015, 24, 62-69.	1.7	72
384	Bioelectric modulation of macrophage polarization. Scientific Reports, 2016, 6, 21044.	1.6	72
385	Antimicrobial coating of spider silk to prevent bacterial attachment on silk surgical sutures. Acta Biomaterialia, 2019, 99, 236-246.	4.1	72
386	2,4,6-Trinitrotoluene-surfactant complexes: decomposition, mutagenicity and soil leaching studies. Environmental Science & Technology, 1982, 16, 566-571.	4.6	71
387	Growth factor induced fibroblast differentiation from human bone marrow stromal cells in vitro. Journal of Orthopaedic Research, 2005, 23, 164-174.	1.2	71
388	Novel Bioengineered Three-Dimensional Human Intestinal Model for Long-Term Infection of Cryptosporidium parvum. Infection and Immunity, 2017, 85, .	1.0	71
389	Fiberâ€Based Biopolymer Processing as a Route toward Sustainability. Advanced Materials, 2022, 34, e2105196.	11.1	71
390	Unfolding the multi-length scale domain structure of silk fibroin protein. Polymer, 2006, 47, 5821-5830.	1.8	70
391	Silk Fibroin Solution Properties Related to Assembly and Structure. Macromolecular Bioscience, 2008, 8, 1006-1018.	2.1	70
392	Three-Dimensional System for the <i>In Vitro</i> Study of Megakaryocytes and Functional Platelet Production Using Silk-Based Vascular Tubes. Tissue Engineering - Part C: Methods, 2011, 17, 1223-1232.	1.1	70
393	Structure and Biodegradation Mechanism of Milled Bombyx mori Silk Particles. Biomacromolecules, 2012, 13, 2503-2512.	2.6	70
394	The Roles of Catabolic Factors in the Development of Osteoarthritis. Tissue Engineering - Part B: Reviews, 2014, 20, 355-363.	2.5	70
395	Revealing eltrombopags promotion of human megakaryopoiesis through AKT/ERK-dependent pathway activation. Haematologica, 2016, 101, 1479-1488.	1.7	70
396	Polycystin 2 regulates mitochondrial Ca ²⁺ signaling, bioenergetics, and dynamics through mitofusin 2. Science Signaling, 2019, 12, .	1.6	70

#	ARTICLE	IF	CITATIONS
397	Sequential Growth Factor Application in Bone Marrow Stromal Cell Ligament Engineering. Tissue Engineering, 2005, 11, 1887-1897.	4.9	69
398	Silk Fibroin Conduits. Annals of Plastic Surgery, 2011, 66, 273-279.	0.5	69
399	Combinatorial Library of Lipidoids for In Vitro DNA Delivery. Bioconjugate Chemistry, 2012, 23, 135-140.	1.8	69
400	Mechanisms of monoclonal antibody stabilization and release from silk biomaterials. Biomaterials, 2013, 34, 7766-7775.	5.7	69
401	Depolarization Alters Phenotype, Maintains Plasticity of Predifferentiated Mesenchymal Stem Cells. Tissue Engineering - Part A, 2013, 19, 1889-1908.	1.6	69
402	The Effect of Sterilization on Silk Fibroin Biomaterial Properties. Macromolecular Bioscience, 2015, 15, 861-874.	2.1	69
403	The Use of Silk as a Scaffold for Mature, Sustainable Unilocular Adipose 3D Tissue Engineered Systems. Advanced Healthcare Materials, 2016, 5, 1667-1677.	3.9	69
404	Enzymic Mediated Synthesis of Conjugated Polymers at the Langmuir Trough Air-Water Interface. Langmuir, 1995, 11, 889-892.	1.6	68
405	Enzymatic Catalysis in the Synthesis of Polyanilines and Derivatives of Polyanilines. , 0, , 69-94.		68
406	Bioelectric modulation of wound healing in a 3D inÂvitro model of tissue-engineered bone. Biomaterials, 2013, 34, 6695-6705.	5.7	68
407	Synthesis of Silk Fibroin Microâ€•and Submicron Spheres Using a Coâ€Flow Capillary Device. Advanced Materials, 2014, 26, 1105-1110.	11.1	68
408	Prospects and challenges for cell-cultured fat as a novel food ingredient. Trends in Food Science and Technology, 2020, 98, 53-67.	7.8	68
409	Natural Silk Nanofibril Aerogels with Distinctive Filtration Capacity and Heat-Retention Performance. ACS Nano, 2021, 15, 8171-8183.	7.3	68
410	Direct Formation of Silk Nanoparticles for Drug Delivery. ACS Biomaterials Science and Engineering, 2016, 2, 2050-2057.	2.6	67
411	Anisotropic Biomimetic Silk Scaffolds for Improved Cell Migration and Healing of Skin Wounds. ACS Applied Materials & Interfaces, 2018, 10, 44314-44323.	4.0	67
412	Co-cross-linking Silk Matrices with Silica Nanostructures for Robust Ultrathin Nanocomposites. ACS Nano, 2010, 4, 7053-7063.	7.3	66
413	Modulated Degradation of Transient Electronic Devices through Multilayer Silk Fibroin Pockets. ACS Applied Materials & Interfaces, 2015, 7, 19870-19875.	4.0	66
414	Matrix-mediated retention ofin vitro osteogenic differentiation potential andin vivo bone-forming capacity by human adult bone marrow-derived mesenchymal stem cells duringex vivo expansion. Journal of Biomedical Materials Research - Part A, 2006, 79A, 464-475.	2.1	65

#	ARTICLE	IF	CITATIONS
415	A 3D cartilage â€" Inflammatory cell culture system for the modeling of human osteoarthritis. Biomaterials, 2011, 32, 5581-5589.	5.7	65
416	Engineered recombinant bacterial collagen as an alternative collagen-based biomaterial for tissue engineering. Frontiers in Chemistry, 2014, 2, 40.	1.8	65
417	Cloning, Expression, and Assembly of Sericin-like Protein. Journal of Biological Chemistry, 2003, 278, 46117-46123.	1.6	64
418	Microphase Separation Controlled Î²-Sheet Crystallization Kinetics in Fibrous Proteins. Macromolecules, 2009, 42, 2079-2087.	2.2	64
419	Functionalizedâ€Silkâ€Based Active Optofluidic Devices. Advanced Functional Materials, 2010, 20, 1083-1089.	7.8	64
420	The performance of silk scaffolds in a rat model of augmentation cystoplasty. Biomaterials, 2013, 34, 4758-4765.	5.7	64
421	Amorphous Silk Nanofiber Solutions for Fabricating Silk-Based Functional Materials. Biomacromolecules, 2016, 17, 3000-3006.	2.6	64
422	Expandable and Rapidly Differentiating Human Induced Neural Stem Cell Lines for Multiple Tissue Engineering Applications. Stem Cell Reports, 2016, 7, 557-570.	2.3	64
423	Injectable Silk Nanofiber Hydrogels for Sustained Release of Small-Molecule Drugs and Vascularization. ACS Biomaterials Science and Engineering, 2019, 5, 4077-4088.	2.6	64
424	Enhancing annulus fibrosus tissue formation in porous silk scaffolds. Journal of Biomedical Materials Research - Part A, 2010, 92A, 43-51.	2.1	63
425	Silk-Fibrin/Hyaluronic Acid Composite Gels for Nucleus Pulposus Tissue Regeneration. Tissue Engineering - Part A, 2011, 17, 2999-3009.	1.6	63
426	Flexibility Regeneration of Silk Fibroin in Vitro. Biomacromolecules, 2012, 13, 2148-2153.	2.6	63
427	Ion electrodiffusion governs silk electrogelation. Soft Matter, 2012, 8, 6897.	1.2	63
428	Tuning Chemical and Physical Cross-Links in Silk Electrogels for Morphological Analysis and Mechanical Reinforcement. Biomacromolecules, 2013, 14, 2629-2635.	2.6	63
429	Transdermal Delivery Devices: Fabrication, Mechanics and Drug Release from Silk. Small, 2013, 9, 3704-3713.	5.2	63
430	Sustainable Three-Dimensional Tissue Model of Human Adipose Tissue. Tissue Engineering - Part C: Methods, 2013, 19, 745-754.	1.1	63
431	Silk-based multilayered angle-ply annulus fibrosus construct to recapitulate form and function of the intervertebral disc. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 477-482.	3.3	63
432	Stimuli-responsive composite biopolymer actuators with selective spatial deformation behavior. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 14602-14608.	3.3	63

#	ARTICLE	IF	CITATIONS
433	Soft Tissue Augmentation Using Silk Gels: An In Vitro and In Vivo Study. Journal of Periodontology, 2009, 80, 1852-1858.	1.7	62
434	Prospects of peripheral nerve tissue engineering using nerve guide conduits based on silk fibroin protein and other biopolymers. International Materials Reviews, 2017, 62, 367-391.	9.4	62
435	Biopolymer Nanoscale Assemblies as Building Blocks for New Materials: A Review. Advanced Functional Materials, 2021, 31, 2008552.	7.8	62
436	The influence of specific binding of collagenâ€“silk chimeras to silk biomaterials on hMSC behavior. Biomaterials, 2013, 34, 402-412.	5.7	61
437	Sequenceâ€“Structureâ€“Property Relationships of Recombinant Spider Silk Proteins: Integration of Biopolymer Design, Processing, and Modeling. Advanced Functional Materials, 2013, 23, 241-253.	7.8	61
438	Porous Silk Scaffolds for Delivery of Growth Factors and Stem Cells to Enhance Bone Regeneration. PLoS ONE, 2014, 9, e102371.	1.1	61
439	Tissue engineering a surrogate niche for metastatic cancer cells. Biomaterials, 2015, 51, 313-319.	5.7	61
440	Biosynthesis of Novel Exopolymers by <i>Aureobasidium pullulans</i>. Applied and Environmental Microbiology, 1999, 65, 5265-5271.	1.4	61
441	Enzymic Modification of Insoluble Amylose in Organic Solvents. Macromolecules, 1995, 28, 8881-8883.	2.2	60
442	Spectral analysis of induced color change on periodically nanopatterned silk films. Optics Express, 2009, 17, 21271.	1.7	60
443	Method to Form a Fiber/Growth Factor Dual-Gradient along Electrospun Silk for Nerve Regeneration.. ACS Applied Materials & Interfaces, 2014, 6, 16817-16826.	4.0	60
444	Biocompatibility of silk-tropoelastin protein polymers. Biomaterials, 2014, 35, 5138-5147.	5.7	60
445	Erosion of Psoriatic Plaques After Chronic Methotrexate Administration. International Journal of Dermatology, 1988, 27, 59-62.	0.5	59
446	Trinitrotoluene and Metabolites Binding to Humic Acid. Environmental Science & Technology, 1997, 31, 584-589.	4.6	59
447	Chemoenzymatic Synthesis of a Multiarm Poly(lactide-co-Îµ-caprolactone). Macromolecules, 1999, 32, 5159-5161.	2.2	59
448	A silk platform that enables electrophysiology and targeted drug delivery in brain astroglial cells. Biomaterials, 2010, 31, 7883-7891.	5.7	59
449	Cervical Tissue Engineering Using Silk Scaffolds and Human Cervical Cells. Tissue Engineering - Part A, 2010, 16, 2101-2112.	1.6	59
450	Human corneal limbal epithelial cell response to varying silk film geometric topography in vitro. Acta Biomaterialia, 2012, 8, 3732-3743.	4.1	59

#	ARTICLE	IF	CITATIONS
451	High Throughput Screening of Dynamic Silkâ€Elastinâ€Like Protein Biomaterials. Advanced Functional Materials, 2014, 24, 4303-4310.	7.8	59
452	<scp>I</scp>mpact of Sterilization on the Enzymatic Degradation and Mechanical Properties of Silk Biomaterials. Macromolecular Bioscience, 2014, 14, 257-269.	2.1	59
453	Modulation of vincristine and doxorubicin binding and release from silk films. Journal of Controlled Release, 2015, 220, 229-238.	4.8	59
454	Silk Fibroin Degradation Related to Rheological and Mechanical Properties. Macromolecular Bioscience, 2016, 16, 666-675.	2.1	59
455	Time-Dependent Changes in Microglia Transcriptional Networks Following Traumatic Brain Injury. Frontiers in Cellular Neuroscience, 2019, 13, 307.	1.8	59
456	3D biomaterial matrix to support long term, full thickness, immuno-competent human skin equivalents with nervous system components. Biomaterials, 2019, 198, 194-203.	5.7	59
457	Complementary Effects of Two Growth Factors in Multifunctionalized Silk Nanofibers for Nerve Reconstruction. PLoS ONE, 2014, 9, e109770.	1.1	59
458	Robust and Responsive Silk Ionomer Microcapsules. Biomacromolecules, 2011, 12, 4319-4325.	2.6	58
459	Silk nanofiber hydrogels with tunable modulus to regulate nerve stem cell fate. Journal of Materials Chemistry B, 2014, 2, 6590-6600.	2.9	58
460	Transparent, Nanostructured Silk Fibroin Hydrogels with Tunable Mechanical Properties. ACS Biomaterials Science and Engineering, 2015, 1, 964-970.	2.6	58
461	(Re)Building a Kidney. Journal of the American Society of Nephrology: JASN, 2017, 28, 1370-1378.	3.0	58
462	Hybrid and Composite Scaffolds Based on Extracellular Matrices for Cartilage Tissue Engineering. Tissue Engineering - Part B: Reviews, 2019, 25, 202-224.	2.5	58
463	Silk Fibroin Microneedle Patches for the Sustained Release of Levonorgestrel. ACS Applied Bio Materials, 2020, 3, 5375-5382.	2.3	58
464	Fibrous proteins and tissue engineering. Materials Today, 2006, 9, 44-53.	8.3	57
465	Effects of chondrogenic and osteogenic regulatory factors on composite constructs grown using human mesenchymal stem cells, silk scaffolds and bioreactors. Journal of the Royal Society Interface, 2008, 5, 929-939.	1.5	57
466	Human dental pulp progenitor cell behavior on aqueous and hexafluoroisopropanol based silk scaffolds. Journal of Biomedical Materials Research - Part A, 2011, 97A, 414-422.	2.1	57
467	Ultrasound Sonication Effects on Silk Fibroin Protein. Macromolecular Materials and Engineering, 2013, 298, 1201-1208.	1.7	57
468	Silk as a biocohesive sacrificial binder in the fabrication of hydroxyapatite load bearing scaffolds. Biomaterials, 2014, 35, 6941-6953.	5.7	57

#	ARTICLE	IF	CITATIONS
469	Biomineralization of Stable and Monodisperse Vaterite Microspheres Using Silk Nanoparticles. ACS Applied Materials & Interfaces, 2015, 7, 1735-1745.	4.0	57
470	A mild process to design silk scaffolds with reduced Î²-sheet structure and various topographies at the nanometer scale. Acta Biomaterialia, 2015, 13, 168-176.	4.1	57
471	Isolation of Silk Mesostructures for Electronic and Environmental Applications. Advanced Functional Materials, 2018, 28, 1806380.	7.8	57
472	Genetically Engineered Chimeric Silkâ€"Silver Binding Proteins. Advanced Functional Materials, 2011, 21, 2889-2895.	7.8	56
473	Mechanical improvements to reinforced porous silk scaffolds. Journal of Biomedical Materials Research - Part A, 2011, 99A, 16-28.	2.1	56
474	Microfabricated Porous Silk Scaffolds for Vascularizing Engineered Tissues. Advanced Functional Materials, 2013, 23, 3404-3412.	7.8	56
475	Silkâ€"hyaluronan-based composite hydrogels: A novel, securable vehicle for drug delivery. Journal of Biomaterials Applications, 2013, 27, 749-762.	1.2	56
476	Injectable Silk Foams for Soft Tissue Regeneration. Advanced Healthcare Materials, 2015, 4, 452-459.	3.9	56
477	Control of silk microsphere formation using polyethylene glycol (PEG). Acta Biomaterialia, 2016, 39, 156-168.	4.1	56
478	Bioengineered elastin- and silk-biomaterials for drug and gene delivery. Advanced Drug Delivery Reviews, 2020, 160, 186-198.	6.6	56
479	Engineering silk materials: From natural spinning to artificial processing. Applied Physics Reviews, 2020, 7, .	5.5	56
480	Formation and characterization of Langmuir silk films. Langmuir, 1993, 9, 1857-1861.	1.6	55
481	Phagocytosis and remodeling of collagen matrices. Experimental Cell Research, 2007, 313, 1045-1055.	1.2	55
482	Quantifying Osteogenic Cell Degradation of Silk Biomaterials. Biomacromolecules, 2010, 11, 3592-3599.	2.6	55
483	Silk Fibroin Microneedles for Transdermal Vaccine Delivery. ACS Biomaterials Science and Engineering, 2017, 3, 360-369.	2.6	55
484	Automated quantification of three-dimensional organization of fiber-like structures in biological tissues. Biomaterials, 2017, 116, 34-47.	5.7	55
485	Human endothelial cells secrete neurotropic factors to direct axonal growth of peripheral nerves. Scientific Reports, 2017, 7, 4092.	1.6	55
486	Conformation and dynamics of soluble repetitive domain elucidates the initial Î²-sheet formation of spider silk. Nature Communications, 2018, 9, 2121.	5.8	55

#	ARTICLE	IF	CITATIONS
487	Experimental Methods for Characterizing the Secondary Structure and Thermal Properties of Silk Proteins. Macromolecular Rapid Communications, 2019, 40, e1800390.	2.0	55
488	Brain organoid formation on decellularized porcine brain ECM hydrogels. PLoS ONE, 2021, 16, e0245685.	1.1	55
489	3D Functional Corneal Stromal Tissue Equivalent Based on Corneal Stromal Stem Cells and Multi-Layered Silk Film Architecture. PLoS ONE, 2017, 12, e0169504.	1.1	55
490	Non-Invasive Time-Lapsed Monitoring and Quantification of Engineered Bone-Like Tissue. Annals of Biomedical Engineering, 2007, 35, 1657-1667.	1.3	54
491	Silk Fibroin Processing and Thrombogenic Responses. Journal of Biomaterials Science, Polymer Edition, 2009, 20, 1875-1897.	1.9	54
492	Spatial and spectral detection of protein monolayers with deterministic aperiodic arrays of metal nanoparticles. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 12086-12090.	3.3	54
493	pH-Sensitive Ionomeric Particles Obtained via Chemical Conjugation of Silk with Poly(amino acid)s. Biomacromolecules, 2010, 11, 3406-3412.	2.6	54
494	The use of bi-layer silk fibroin scaffolds and small intestinal submucosa matrices to support bladder tissue regeneration in a rat model of spinal cord injury. Biomaterials, 2014, 35, 7452-7459.	5.7	54
495	Functional Material Features of <i>Bombyx mori</i> Silk Light versus Heavy Chain Proteins. Biomacromolecules, 2015, 16, 606-614.	2.6	54
496	Novel fabrication of fluorescent silk utilized in biotechnological and medical applications. Biomaterials, 2015, 70, 48-56.	5.7	54
497	Tyrosine Templating in the Self-Assembly and Crystallization of Silk Fibroin. Biomacromolecules, 2016, 17, 3570-3579.	2.6	54
498	Directed assembly of robust and biocompatible silk fibroin/hyaluronic acid composite hydrogels. Composites Part B: Engineering, 2019, 176, 107204.	5.9	54
499	In Situ 3D Printing: Opportunities with Silk Inks. Trends in Biotechnology, 2021, 39, 719-730.	4.9	54
500	Biodegradation of <i>N</i> -Nitrosodimethylamine in Aqueous and Soil Systems. Applied and Environmental Microbiology, 1985, 50, 1077-1086.	1.4	54
501	Biomimetic composites via molecular scale self-assembly and biomineralization. Current Opinion in Solid State and Materials Science, 2003, 7, 265-271.	5.6	53
502	Discovery of the Dual Polysaccharide Composition of Emulsan and the Isolation of the Emulsion Stabilizing Component. Biomacromolecules, 2008, 9, 1988-1996.	2.6	53
503	Incorporation of proteinase inhibitors into silk-based delivery devices for enhanced control of degradation and drug release. Biomaterials, 2011, 32, 909-918.	5.7	53
504	Multiple Silk Coatings on Biphasic Calcium Phosphate Scaffolds: Effect on Physical and Mechanical Properties and In Vitro Osteogenic Response of Human Mesenchymal Stem Cells. Biomacromolecules, 2013, 14, 2179-2188.	2.6	53

#	ARTICLE	IF	CITATIONS
505	Definition of the Native and Denatured Type II Collagen Binding Site for Fibronectin Using a Recombinant Collagen System. Journal of Biological Chemistry, 2014, 289, 4941-4951.	1.6	53
506	Genomeâ€wide analysis reveals conserved transcriptional responses downstream of resting potential change in <i>Xenopus</i> embryos, axolotl regeneration, and human mesenchymal cell differentiation. Regeneration (Oxford, England), 2016, 3, 3-25.	6.3	53
507	Comparative Study of Strainâ€Dependent Structural Changes of Silkworm Silks: Insight into the Structural Origin of Strainâ€Stiffening. Small, 2017, 13, 1702266.	5.2	53
508	Biomimetic Silk Scaffolds with an Amorphous Structure for Soft Tissue Engineering. ACS Applied Materials & Interfaces, 2018, 10, 9290-9300.	4.0	53
509	Oral Delivery of Curcumin Using Silk Nano- and Microparticles. ACS Biomaterials Science and Engineering, 2018, 4, 3885-3894.	2.6	53
510	From Silk Spinning to 3D Printing: Polymer Manufacturing using Directed Hierarchical Molecular Assembly. Advanced Healthcare Materials, 2020, 9, e1901552.	3.9	53
511	Biological degradation of explosives and chemical agents. Current Opinion in Biotechnology, 1992, 3, 253-260.	3.3	52
512	Sequential Biochemical and Mechanical Stimulation in the Development of Tissue-Engineered Ligaments. Tissue Engineering - Part A, 2008, 14, 1161-1172.	1.6	52
513	Biofunctional Silk/Neuron Interfaces. Advanced Functional Materials, 2012, 22, 1871-1884.	7.8	52
514	Remodeling of tissue-engineered bone structures in vivo. European Journal of Pharmaceutics and Biopharmaceutics, 2013, 85, 119-129.	2.0	52
515	Filmâ€Based Implants for Supporting Neuronâ€"Electrode Integrated Interfaces for The Brain. Advanced Functional Materials, 2014, 24, 1938-1948.	7.8	52
516	Biomimetic Magnetic Silk Scaffolds. ACS Applied Materials & Interfaces, 2015, 7, 6282-6292.	4.0	52
517	Conductive Silkâ€Based Composites Using Biobased Carbon Materials. Advanced Materials, 2019, 31, e1904720.	11.1	52
518	Single Honeybee Silk Protein Mimics Properties of Multi-Protein Silk. PLoS ONE, 2011, 6, e16489.	1.1	52
519	3D porous scaffolds from wheat glutenin for cultured meat applications. Biomaterials, 2022, 285, 121543.	5.7	52
520	PEROXIDASE-CATALYZED CROSSlINKING OF FUNCTIONALIZED POLYASPARTIC ACID POLYMERS. Journal of Macromolecular Science - Pure and Applied Chemistry, 2002, 39, 1151-1181.	1.2	51
521	Focal Infection Treatment using Laserâ€Mediated Heating of Injectable Silk Hydrogels with Gold Nanoparticles. Advanced Functional Materials, 2012, 22, 3793-3798.	7.8	51
522	Laminar Silk Scaffolds for Aligned Tissue Fabrication. Macromolecular Bioscience, 2013, 13, 48-58.	2.1	51

#	ARTICLE	IF	CITATIONS
523	Recombinant reflectinâ€based optical materials. Journal of Polymer Science, Part B: Polymer Physics, 2013, 51, 254-264.	2.4	51
524	Hierarchical biomineralization of calcium carbonate regulated by silk microspheres. Acta Biomaterialia, 2013, 9, 6974-6980.	4.1	51
525	Electroactive Tissue Scaffolds with Aligned Pores as Instructive Platforms for Biomimetic Tissue Engineering. Bioengineering, 2015, 2, 15-34.	1.6	51
526	A biphasic scaffold based on silk and bioactive ceramic with stratified properties for osteochondral tissue regeneration. Journal of Materials Chemistry B, 2015, 3, 5361-5376.	2.9	51
527	A new path to platelet production through matrix sensing. Haematologica, 2017, 102, 1150-1160.	1.7	51
528	Multiscale design and synthesis of biomimetic gradient protein/biosilica composites for interfacial tissue engineering. Biomaterials, 2017, 145, 44-55.	5.7	51
529	Multi-channel silk sponge mimicking bone marrow vascular niche for platelet production. Biomaterials, 2018, 178, 122-133.	5.7	51
530	Biosynthesis and Processing of Silk Proteins. MRS Bulletin, 1992, 17, 41-47.	1.7	50
531	Molecular assembly of proteins and conjugated polymers: Toward development of biosensors. Biotechnology and Bioengineering, 1995, 45, 116-121.	1.7	50
532	Silk fibroin and polyethylene glycolâ€based biocompatible tissue adhesives. Journal of Biomedical Materials Research - Part A, 2011, 98A, 567-575.	2.1	50
533	Stem Cell-Based Meniscus Tissue Engineering. Tissue Engineering - Part A, 2011, 17, 2749-2761.	1.6	50
534	Permeability and Micromechanical Properties of Silk Ionomer Microcapsules. Langmuir, 2012, 28, 12235-12244.	1.6	50
535	Stem Cell Implants for Cancer Therapy: TRAIL-Expressing Mesenchymal Stem Cells Target Cancer Cells<i>In Situ</i>. Journal of Breast Cancer, 2012, 15, 273.	0.8	50
536	Biocompatibility and osteoconduction of macroporous silk fibroin implants in cortical defects in sheep. European Journal of Pharmaceutics and Biopharmaceutics, 2013, 85, 107-118.	2.0	50
537	Electrical Stimulation of Human Mesenchymal Stem Cells on Conductive Nanofibers Enhances their Differentiation toward Osteogenic Outcomes. Macromolecular Rapid Communications, 2015, 36, 1884-1890.	2.0	50
538	Focal therapy of neuroblastoma using silk films to deliver kinase and chemotherapeutic agents in vivo. Acta Biomaterialia, 2015, 20, 32-38.	4.1	50
539	Protein Bricks: 2D and 3D Bioâ€Nanostructures with Shape and Function on Demand. Advanced Materials, 2018, 30, e1705919.	11.1	50
540	3D bioengineered tissue model of the large intestine to study inflammatory bowel disease. Biomaterials, 2019, 225, 119517.	5.7	50

#	ARTICLE	IF	CITATIONS
541	Cell armor for protection against environmental stress: Advances, challenges and applications in micro- and nanoencapsulation of mammalian cells. Acta Biomaterialia, 2019, 95, 3-31.	4.1	50
542	Photo-Crosslinked Silk Fibroin for 3D Printing. Polymers, 2020, 12, 2936.	2.0	50
543	Injectable hydrogel systems with multiple biophysical and biochemical cues for bone regeneration. Biomaterials Science, 2020, 8, 2537-2548.	2.6	50
544	Innovations in 3D Tissue Models of Human Brain Physiology and Diseases. Advanced Functional Materials, 2020, 30, 1909146.	7.8	50
545	Electroâ€·Blown Spun Silk/Graphene Nanoionotronic Skin for Multifunctional Fire Protection and Alarm. Advanced Materials, 2021, 33, e2102500.	11.1	50
546	Photoacoustic Carbon Nanotubes Embedded Silk Scaffolds for Neural Stimulation and Regeneration. ACS Nano, 2022, 16, 2292-2305.	7.3	50
547	Fibrous proteinsâ€”silk as a model system. Polymer Degradation and Stability, 1998, 59, 25-32.	2.7	49
548	Treatment of traumatic brain injury in mice with bone marrow stromal cellâ€“impregnated collagen scaffolds. Journal of Neurosurgery, 2009, 111, 658-665.	0.9	49
549	Redox-Active Ultrathin Template of Silk Fibroin: Effect of Secondary Structure on Gold Nanoparticle Reduction. Chemistry of Materials, 2009, 21, 2696-2704.	3.2	49
550	Rapid Nanoimprinting of Doped Silk Films for Enhanced Fluorescent Emission. Advanced Materials, 2010, 22, 4596-4599.	11.1	49
551	Chargeâ€·Tunable Autoclaved Silkâ€·Tropoelastin Protein Alloys That Control Neuron Cell Responses. Advanced Functional Materials, 2013, 23, 3875-3884.	7.8	49
552	Robust Microcapsules with Controlled Permeability from Silk Fibroin Reinforced with Graphene Oxide. Small, 2014, 10, 5087-5097.	5.2	49
553	Recombinant protein blends: silk beyond natural design. Current Opinion in Biotechnology, 2016, 39, 1-7.	3.3	49
554	Computational smart polymer design based on elastin protein mutability. Biomaterials, 2017, 127, 49-60.	5.7	49
555	Direct Incorporation of Glucosamine and N -Acetylglucosamine into Exopolymers by Gluconacetobacter xylinus (= Acetobacter xylinum) ATCC 10245: Production of Chitosan-Cellulose and Chitin-Cellulose Exopolymers. Applied and Environmental Microbiology, 2001, 67, 3970-3975.	1.4	48
556	Mechanisms of Enzymatic Degradation of Amyloid Î² Microfibrils Generating Nanofilaments and Nanospheres Related to Cytotoxicity. Biochemistry, 2010, 49, 3254-3260.	1.2	48
557	Annulus fibrosus tissue engineering using lamellar silk scaffolds. Journal of Tissue Engineering and Regenerative Medicine, 2012, 6, s24-s33.	1.3	48
558	Physical and biological regulation of neuron regenerative growth andÂnetwork formation on recombinant dragline silks. Biomaterials, 2015, 48, 137-146.	5.7	48

#	ARTICLE	IF	CITATIONS
559	Elastic, silk-cardiac extracellular matrix hydrogels exhibit time-dependent stiffening that modulates cardiac fibroblast response. Journal of Biomedical Materials Research - Part A, 2016, 104, 3058-3072.	2.1	48
560	Regenerated silk materials for functionalized silk orthopedic devices by mimicking natural processing. Biomaterials, 2016, 110, 24-33.	5.7	48
561	Microskinâ€Inspired Injectable MSCâ€Laden Hydrogels for Scarless Wound Healing with Hair Follicles. Advanced Healthcare Materials, 2020, 9, e2000041.	3.9	48
562	Processing Windows for Forming Silk Fibroin Biomaterials into a 3D Porous Matrix. Australian Journal of Chemistry, 2005, 58, 716.	0.5	47
563	Spatially Controlled Delivery of Neurotrophic Factors in Silk Fibroinâ€"Based Nerve Conduits for Peripheral Nerve Repair. Annals of Plastic Surgery, 2011, 67, 147-155.	0.5	47
564	Rapid Transferâ€Based Micropatterning and Dry Etching of Silk Microstructures. Advanced Materials, 2011, 23, 2015-2019.	11.1	47
565	Evaluation of Silk Biomaterials in Combination with Extracellular Matrix Coatings for Bladder Tissue Engineering with Primary and Pluripotent Cells. PLoS ONE, 2013, 8, e56237.	1.1	47
566	Silk Macromolecules with Amino Acidâ€"Poly(Ethylene Glycol) Grafts for Controlling Layer-by-Layer Encapsulation and Aggregation of Recombinant Bacterial Cells. ACS Nano, 2015, 9, 1219-1235.	7.3	47
567	Precise Protein Photolithography (P³): High Performance Biopatterning Using Silk Fibroin Light Chain as the Resist. Advanced Science, 2017, 4, 1700191.	5.6	47
568	Future direction of the treatment of ACL ruptures. Orthopedic Clinics of North America, 2002, 33, 653-661.	0.5	46
569	Bioactive â€œself-sensingâ€•optical systems. Applied Physics Letters, 2009, 95, 253702.	1.5	46
570	Production, structure and in vitro degradation of electrospun honeybee silk nanofibers. Acta Biomaterialia, 2011, 7, 3789-3795.	4.1	46
571	Chondrogenesis in perfusion bioreactors using porous silk scaffolds and hESCâ€derived MSCs. Journal of Biomedical Materials Research - Part A, 2011, 96A, 21-28.	2.1	46
572	Instructive Conductive 3D Silk Foamâ€Based Bone Tissue Scaffolds Enable Electrical Stimulation of Stem Cells for Enhanced Osteogenic Differentiation. Macromolecular Bioscience, 2015, 15, 1490-1496.	2.1	46
573	Shape Memory Silk Protein Sponges for Minimally Invasive Tissue Regeneration. Advanced Healthcare Materials, 2017, 6, 1600762.	3.9	46
574	Fabrication of the FGF1-functionalized sericin hydrogels with cell proliferation activity for biomedical application using genetically engineered Bombyx mori (B. mori) silk. Acta Biomaterialia, 2018, 79, 239-252.	4.1	46
575	Functional maturation of human neural stem cells in a 3D bioengineered brain model enriched with fetal brain-derived matrix. Scientific Reports, 2019, 9, 17874.	1.6	46
576	Development of an in vitro model to study the impact of BMP-2 on metastasis to bone. Journal of Tissue Engineering and Regenerative Medicine, 2010, 4, 590-599.	1.3	45

#	ARTICLE	IF	CITATIONS
577	Synthesis and characterization of silk fibroin microparticles for intra-articular drug delivery. International Journal of Pharmaceutics, 2015, 485, 7-14.	2.6	45
578	Curcumin-functionalized silk materials for enhancing adipogenic differentiation of bone marrow-derived human mesenchymal stem cells. Acta Biomaterialia, 2015, 11, 222-232.	4.1	45
579	A silk-based encapsulation platform for pancreatic islet transplantation improves islet function<i>in vivo</i>. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 887-895.	1.3	45
580	Synergistic Integration of Experimental and Simulation Approaches for the <i>de Novo</i> Design of Silk-Based Materials. Accounts of Chemical Research, 2017, 50, 866-876.	7.6	45
581	Extended release formulations using silk proteins for controlled delivery of therapeutics. Expert Opinion on Drug Delivery, 2019, 16, 741-756.	2.4	45
582	Silkâ€“Graphene Hybrid Hydrogels with Multiple Cues to Induce Nerve Cell Behavior. ACS Biomaterials Science and Engineering, 2019, 5, 613-622.	2.6	45
583	Mechanically Robust, Rapidly Actuating, and Biologically Functionalized Macroporous Poly(N-isopropylacrylamide)/Silk Hybrid Hydrogels. Langmuir, 2010, 26, 15614-15624.	1.6	44
584	Stabilization of Organophosphorus Hydrolase by Entrapment in Silk Fibroin: Formation of a Robust Enzymatic Material Suitable for Surface Coatings. Biomacromolecules, 2012, 13, 2037-2045.	2.6	44
585	Sustained volume retention in vivo with adipocyte and lipoaspirate seeded silk scaffolds. Biomaterials, 2013, 34, 2960-2968.	5.7	44
586	Silkâ€“tropoelastin protein films for nerve guidance. Acta Biomaterialia, 2015, 14, 1-10.	4.1	44
587	The optical properties of regenerated silk fibroin films obtained from different sources. Applied Physics Letters, 2017, 111, .	1.5	44
588	The importance of the neuroâ€immunoâ€cutaneous system on human skin equivalent design. Cell Proliferation, 2019, 52, e12677.	2.4	44
589	It takes a village to grow a tissue. Nature Biotechnology, 2005, 23, 1237-1239.	9.4	43
590	Functionalization of Silk Fibroin with NeutrAvidin and Biotin. Macromolecular Bioscience, 2011, 11, 100-110.	2.1	43
591	Direct Transfer of Subwavelength Plasmonic Nanostructures on Bioactive Silk Films. Advanced Materials, 2012, 24, 6088-6093.	11.1	43
592	Corneal pain and experimental model development. Progress in Retinal and Eye Research, 2019, 71, 88-113.	7.3	43
593	Osteoinductive recombinant silk fusion proteins for bone regeneration. Acta Biomaterialia, 2017, 49, 127-139.	4.1	42
594	Heat of fusion of polymer crystals by fast scanning calorimetry. Polymer, 2017, 126, 240-247.	1.8	42

#	ARTICLE	IF	CITATIONS
595	Enzyme-catalyzed functionalization of poly(L-lactic acid) for drug delivery applications. Process Biochemistry, 2017, 59, 77-83.	1.8	42
596	3D Printing of Silk Protein Structures by Aqueous Solventâ€Directed Molecular Assembly. Macromolecular Bioscience, 2020, 20, e1900191.	2.1	42
597	Acellular Bi-Layer Silk Fibroin Scaffolds Support Tissue Regeneration in a Rabbit Model of Onlay Urethroplasty. PLoS ONE, 2014, 9, e91592.	1.1	42
598	Protein-amylose/amylopectin molecular interactions during high-moisture extruded texturization toward plant-based meat substitutes applications. Food Hydrocolloids, 2022, 127, 107559.	5.6	42
599	Spider silk-bone sialoprotein fusion proteins for bone tissue engineering. Soft Matter, 2011, 7, 4964.	1.2	41
600	Silkâ€“Silica Composites from Genetically Engineered Chimeric Proteins: Materials Properties Correlate with Silica Condensation Rate and Colloidal Stability of the Proteins in Aqueous Solution. Langmuir, 2012, 28, 4373-4381.	1.6	41
601	Accelerated In Vitro Degradation of Optically Clear Low<i>Î²</i>-Sheet Silk Films by Enzyme-Mediated Pretreatment. Translational Vision Science and Technology, 2013, 2, 2.	1.1	41
602	Nanoscale control of silks for nanofibrous scaffold formation with an improved porous structure. Journal of Materials Chemistry B, 2014, 2, 2622-2633.	2.9	41
603	The influence of the hydrophilicâ€“lipophilic environment on the structure of silk fibroin protein. Journal of Materials Chemistry B, 2015, 3, 2599-2606.	2.9	41
604	Bioactive silk hydrogels with tunable mechanical properties. Journal of Materials Chemistry B, 2018, 6, 2739-2746.	2.9	41
605	Murine osteoblasts regulate mesenchymal stem cells via WNT and cadherin pathways: mechanism depends on cellâ€“cell contact mode. Journal of Tissue Engineering and Regenerative Medicine, 2007, 1, 39-50.	1.3	40
606	The treatment of TBI with human marrow stromal cells impregnated into collagen scaffold: Functional outcome and gene expression profile. Brain Research, 2011, 1371, 129-139.	1.1	40
607	Purification and cytotoxicity of tagâ€free bioengineered spider silk proteins. Journal of Biomedical Materials Research - Part A, 2013, 101A, 456-464.	2.1	40
608	Thermal and Structural Properties of Silk Biomaterials Plasticized by Glycerol. Biomacromolecules, 2016, 17, 3911-3921.	2.6	40
609	Functional and Sustainable 3D Human Neural Network Models from Pluripotent Stem Cells. ACS Biomaterials Science and Engineering, 2018, 4, 4278-4288.	2.6	40
610	Mass Production of Biocompatible Graphene Using Silk Nanofibers. ACS Applied Materials & Interfaces, 2018, 10, 22924-22931.	4.0	40
611	Bioengineered <i>in Vitro</i> Tissue Model of Fibroblast Activation for Modeling Pulmonary Fibrosis. ACS Biomaterials Science and Engineering, 2019, 5, 2417-2429.	2.6	40
612	Engineering carotenoid production in mammalian cells for nutritionally enhanced cell-cultured foods. Metabolic Engineering, 2020, 62, 126-137.	3.6	40

#	ARTICLE	IF	CITATIONS
613	Decomposition of nitroguanidine. Environmental Science & Technology, 1982, 16, 488-492.	4.6	39
614	Thin Film Assembly of Spider Silk-like Block Copolymers. Langmuir, 2011, 27, 1000-1008.	1.6	39
615	The effect of manipulation of silk scaffold fabrication parameters on matrix performance in a murine model of bladder augmentation. Biomaterials, 2011, 32, 7562-7570.	5.7	39
616	Clues for biomimetics from natural composite materials. Nanomedicine, 2012, 7, 1409-1423.	1.7	39
617	Bioinspired Silicification of Silica-Binding Peptide-Silk Protein Chimeras: Comparison of Chemically and Genetically Produced Proteins. Biomacromolecules, 2012, 13, 683-690.	2.6	39
618	Silk porous scaffolds with nanofibrous microstructures and tunable properties. Colloids and Surfaces B: Biointerfaces, 2014, 120, 28-37.	2.5	39
619	3D Printing of Regenerated Silk Fibroin and Antibody-Containing Microstructures via Multiphoton Lithography. ACS Biomaterials Science and Engineering, 2017, 3, 2064-2075.	2.6	39
620	Silk Hydrogels Crosslinked by the Fenton Reaction. Advanced Healthcare Materials, 2019, 8, e1900644.	3.9	39
621	Scaffolding kidney organoids on silk. Journal of Tissue Engineering and Regenerative Medicine, 2019, 13, 812-822.	1.3	39
622	Injectable Desferrioxamine-Laden Silk Nanofiber Hydrogels for Accelerating Diabetic Wound Healing. ACS Biomaterials Science and Engineering, 2021, 7, 1147-1158.	2.6	39
623	Asiaticoside-laden silk nanofiber hydrogels to regulate inflammation and angiogenesis for scarless skin regeneration. Biomaterials Science, 2021, 9, 5227-5236.	2.6	39
624	Biosynthesis and Applications of Silkâ€like and Collagenâ€like Proteins. Polymer Reviews, 2007, 47, 29-62.	5.3	38
625	Materials by design: Merging proteins and music. Nano Today, 2012, 7, 488-495.	6.2	38
626	The influence of scaffold material on chondrocytes under inflammatory conditions. Acta Biomaterialia, 2013, 9, 6563-6575.	4.1	38
627	Electrical stimulation of human mesenchymal stem cells on biomineralized conducting polymers enhances their differentiation towards osteogenic outcomes. Journal of Materials Chemistry B, 2015, 3, 8059-8064.	2.9	38
628	Bioinspired Three-Dimensional Human Neuromuscular Junction Development in Suspended Hydrogel Arrays. Tissue Engineering - Part C: Methods, 2018, 24, 346-359.	1.1	38
629	Nerve Guidance Conduits with Hierarchical Anisotropic Architecture for Peripheral Nerve Regeneration. Advanced Healthcare Materials, 2021, 10, e2100427.	3.9	38
630	Noninvasive Metabolic Imaging of Engineered 3D Human Adipose Tissue in a Perfusion Bioreactor. PLoS ONE, 2013, 8, e55696.	1.1	38

#	ARTICLE	IF	CITATIONS
631	Synthesis and Characterization of Chimeric Silkworm Silk. Biomacromolecules, 2003, 4, 815-820.	2.6	37
632	N-acetylglucosamine 6-Phosphate Deacetylase (nagA) Is Required for N-acetyl Glucosamine Assimilation in Gluconacetobacter xylinus. PLoS ONE, 2011, 6, e18099.	1.1	37
633	Cyst formation following disruption of intracellular calcium signaling. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14283-14288.	3.3	37
634	A robust spectroscopic method for the determination of protein conformational composition â€" Application to the annealing of silk. Acta Biomaterialia, 2018, 73, 355-364.	4.1	37
635	Multifunctional Bioreactor System for Human Intestine Tissues. ACS Biomaterials Science and Engineering, 2018, 4, 231-239.	2.6	37
636	Understanding Secondary Structures of Silk Materials via Micro- and Nano-Infrared Spectroscopies. ACS Biomaterials Science and Engineering, 2019, 5, 3161-3183.	2.6	37
637	Fabricating mechanically improved silk-based vascular grafts by solution control of the gel-spinning process. Biomaterials, 2020, 230, 119567.	5.7	37
638	Observations of 3 nm Silk Nanofibrils Exfoliated from Natural Silkworm Silk Fibers. , 2020, 2, 153-160.		37
639	Silk. , 1997, , 103-131.		36
640	Surface modification of silk fibroin with poly(ethylene glycol) for antiadhesion and antithrombotic applications. Journal of Biomedical Materials Research - Part A, 2010, 93A, 595-606.	2.1	36
641	Matrix-Embedded Cytokines to Simulate Osteoarthritis-Like Cartilage Microenvironments. Tissue Engineering - Part A, 2013, 19, 1733-1753.	1.6	36
642	What's Inside the Box? â€" Lengthâ€Scales that Govern Fracture Processes of Polymer Fibers. Advanced Materials, 2014, 26, 412-417.	11.1	36
643	Silk fibroin rods for sustained delivery of breast cancer therapeutics. Biomaterials, 2014, 35, 8613-8620.	5.7	36
644	A Longâ€Living Bioengineered Neural Tissue Platform to Study Neurodegeneration. Macromolecular Bioscience, 2020, 20, e2000004.	2.1	36
645	Recent advances in bioprinting using silk protein-based bioinks. Biomaterials, 2022, 287, 121672.	5.7	36
646	Triggered release of proteins from emulsanâ€"alginate beads. Journal of Controlled Release, 2005, 109, 149-157.	4.8	35
647	Hypoxia and Amino Acid Supplementation Synergistically Promote the Osteogenesis of Human Mesenchymal Stem Cells on Silk Protein Scaffolds. Tissue Engineering - Part A, 2010, 16, 3623-3634.	1.6	35
648	Non-invasive monitoring of cell metabolism and lipid production in 3D engineered human adipose tissues using label-free multiphoton microscopy. Biomaterials, 2013, 34, 8607-8616.	5.7	35

#	ARTICLE	IF	CITATIONS
649	Silk/chitosan biohybrid hydrogels and scaffolds via green technology. RSC Advances, 2014, 4, 53547-53556.	1.7	35
650	Genetically Programmable Thermoresponsive Plasmonic Gold/Silk-Elastin Protein Core/Shell Nanoparticles. Langmuir, 2014, 30, 4406-4414.	1.6	35
651	Acellular bi-layer silk fibroin scaffolds support functional tissue regeneration in a rat model of onlay esophagoplasty. Biomaterials, 2015, 53, 149-159.	5.7	35
652	Long term perfusion system supporting adipogenesis. Methods, 2015, 84, 84-89.	1.9	35
653	Chemically Functionalized Silk for Human Bone Marrow-Derived Mesenchymal Stem Cells Proliferation and Differentiation. ACS Applied Materials & Interfaces, 2016, 8, 14406-14413.	4.0	35
654	Curcumin-functionalized silk biomaterials for anti-aging utility. Journal of Colloid and Interface Science, 2017, 496, 66-77.	5.0	35
655	Implantable chemotherapy-loaded silk protein materials for neuroblastoma treatment. International Journal of Cancer, 2017, 140, 726-735.	2.3	35
656	Stability and biodegradation of silk fibroin/hyaluronic acid nerve conduits. Composites Part B: Engineering, 2020, 200, 108222.	5.9	35
657	Dynamically tunable light responsive silk-elastin-like proteins. Acta Biomaterialia, 2021, 121, 214-223.	4.1	35
658	Electric field-driven building blocks for introducing multiple gradients to hydrogels. Protein and Cell, 2020, 11, 267-285.	4.8	35
659	Enzyme-Mediated Two-Dimensional Polymerization of Aromatic Derivatives on a Langmuir Trough. Industrial & Engineering Chemistry Research, 1995, 34, 4009-4015.	1.8	34
660	PEROXIDASE, HEMATIN, AND PEGYLATED-HEMATIN CATALYZED VINYL POLYMERIZATIONS IN WATER. Journal of Macromolecular Science - Pure and Applied Chemistry, 2001, 38, 1219-1230.	1.2	34
661	Supramolecular assembly of collagen triblock peptides. Biopolymers, 2003, 70, 435-444.	1.2	34
662	Mechanistic limitations in the synthesis of polyesters by lipase-catalyzed ring-opening polymerization. Biotechnology and Bioengineering, 2003, 84, 103-113.	1.7	34
663	Osteogenic Differentiation of Human Mesenchymal Bone Marrow Cells in Silk Scaffolds Is Regulated by Nitric Oxide. Annals of the New York Academy of Sciences, 2007, 1117, 367-376.	1.8	34
664	Characterization of natural, decellularized and reseeded porcine tooth bud matrices. Biomaterials, 2012, 33, 5287-5296.	5.7	34
665	Neural responses to electrical stimulation on patterned silk films. Journal of Biomedical Materials Research - Part A, 2013, 101A, 2559-2572.	2.1	34
666	Multilayered Magnetic Gelatin Membrane Scaffolds. ACS Applied Materials & Interfaces, 2015, 7, 23098-23109.	4.0	34

#	Article	IF	Citations
667	Engineering Biomaterials for Enhanced Tissue Regeneration. Current Stem Cell Reports, 2016, 2, 140-146.	0.7	34
668	Immuno-Informed 3D Silk Biomaterials for Tailoring Biological Responses. ACS Applied Materials & Interfaces, 2016, 8, 29310-29322.	4.0	34
669	Rationally Designed Redox-Sensitive Protein Hydrogels with Tunable Mechanical Properties. Biomacromolecules, 2016, 17, 3508-3515.	2.6	34
670	Controlling Cell Behavior on Silk Nanofiber Hydrogels with Tunable Anisotropic Structures. ACS Biomaterials Science and Engineering, 2018, 4, 933-941.	2.6	34
671	Combining In Silico Design and Biomimetic Assembly: A New Approach for Developing Highâ€Performance Dynamic Responsive Bioâ€Nanomaterials. Advanced Materials, 2018, 30, e1802306.	11.1	34
672	Biblical leprosy: An anachronism whose time has come. Journal of the American Academy of Dermatology, 1993, 28, 507-510.	0.6	33
673	Enzyme-Based Molecular Imprinting with Metals. Biomacromolecules, 2002, 3, 1353-1358.	2.6	33
674	The support of adenosine release from adenosine kinase deficient ES cells by silk substrates. Biomaterials, 2006, 27, 4599-4607.	5.7	33
675	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
676	Towards a biomorphic soft robot: Design constraints and solutions. , 2012, , .		33
677	Quantitative characterization of mineralized silk film remodeling during long-term osteoblastâ€"osteoclast co-culture. Biomaterials, 2014, 35, 3794-3802.	5.7	33
678	<i>In vitro</i>chondrogenesis with lysozyme susceptible bacterial cellulose as a scaffold. Journal of Tissue Engineering and Regenerative Medicine, 2015, 9, E276-E288.	1.3	33
679	Brief Local Application of Progesterone via a Wearable Bioreactor Induces Long-Term Regenerative Response in Adult Xenopus Hindlimb. Cell Reports, 2018, 25, 1593-1609.e7.	2.9	33
680	Modulatory effect of simultaneously released magnesium, strontium, and silicon ions on injectable silk hydrogels for bone regeneration. Materials Science and Engineering C, 2019, 94, 976-987.	3.8	33
681	Adipogenic Differentiation of Human Adipose-Derived Stem Cells on 3D Silk Scaffolds. Methods in Molecular Biology, 2011, 702, 319-330.	0.4	33
682	Nerve Growth Factor-Laden Anisotropic Silk Nanofiber Hydrogels to Regulate Neuronal/Astroglial Differentiation for Scarless Spinal Cord Repair. ACS Applied Materials & Interfaces, 2022, 14, 3701-3715.	4.0	33
683	Quantitative biomarkers of stem cell differentiation based on intrinsic two-photon excited fluorescence. Journal of Biomedical Optics, 2007, 12, 060504.	1.4	32
684	Controlled Release Biopolymers for Enhancing the Immune Response. Molecular Pharmaceutics, 2007, 4, 33-46.	2.3	32

#	ARTICLE	IF	CITATIONS
685	Multichannel silk protein/laminin grafts for spinal cord injury repair. Journal of Biomedical Materials Research - Part A, 2016, 104, 3045-3057.	2.1	32
686	Evaluation of the Spectral Response of Functionalized Silk Inverse Opals as Colorimetric Immunosensors. ACS Applied Materials & Interfaces, 2016, 8, 16218-16226.	4.0	32
687	Endogenous Two-Photon Excited Fluorescence Imaging Characterizes Neuron and Astrocyte Metabolic Responses to Manganese Toxicity. Scientific Reports, 2017, 7, 1041.	1.6	32
688	Predicting Silk Fiber Mechanical Properties through Multiscale Simulation and Protein Design. ACS Biomaterials Science and Engineering, 2017, 3, 1542-1556.	2.6	32
689	Multi-layered silk film coculture system for human corneal epithelial and stromal stem cells. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, 285-295.	1.3	32
690	A Biodegradable Stent with Surface Functionalization of Combinedâ€•Therapy Drugs for Colorectal Cancer. Advanced Healthcare Materials, 2018, 7, e1801213.	3.9	32
691	3D Printing of Functional Microalgal Silk Structures for Environmental Applications. ACS Biomaterials Science and Engineering, 2019, 5, 4808-4816.	2.6	32
692	Membrane Potential Depolarization Alters Calcium Flux and Phosphate Signaling During Osteogenic Differentiation of Human Mesenchymal Stem Cells. Bioelectricity, 2019, 1, 56-66.	0.6	32
693	Silk degumming time controls horseradish peroxidase-catalyzed hydrogel properties. Biomaterials Science, 2020, 8, 4176-4185.	2.6	32
694	Potential Involvement of Varicella Zoster Virus in Alzheimerâ€™s Disease via Reactivation of Quiescent Herpes Simplex Virus Type 1. Journal of Alzheimer's Disease, 2022, 88, 1189-1200.	1.2	32
695	Edible films for cultivated meat production. Biomaterials, 2022, 287, 121659.	5.7	32
696	Silk protein based hybrid photonic-plasmonic crystal. Optics Express, 2013, 21, 8897.	1.7	31
697	Fabrication of Tunable, Highâ€•Refractiveâ€•Index Titanateâ€“Silk Nanocomposites on the Microâ€•and Nanoscale. Advanced Materials, 2015, 27, 6728-6732.	11.1	31
698	Injectable silk-based biomaterials for cervical tissue augmentation: an inÂvitro study. American Journal of Obstetrics and Gynecology, 2016, 214, 118.e1-118.e9.	0.7	31
699	Fabrication of Silk Scaffolds with Nanomicroscaled Structures and Tunable Stiffness. Biomacromolecules, 2017, 18, 2073-2079.	2.6	31
700	Coding Cell Micropatterns Through Peptide Inkjet Printing for Arbitrary Biomineralized Architectures. Advanced Functional Materials, 2018, 28, 1800228.	7.8	31
701	Silk Polymers and Nanoparticles: A Powerful Combination for the Design of Versatile Biomaterials. Frontiers in Chemistry, 2020, 8, 604398.	1.8	31
702	Tough Anisotropic Silk Nanofiber Hydrogels with Osteoinductive Capacity. ACS Biomaterials Science and Engineering, 2020, 6, 2357-2367.	2.6	31

#	Article	IF	Citations
703	Intracellular Pathways Involved in Bone Regeneration Triggered by Recombinant Silkâ€"Silica Chimeras. Advanced Functional Materials, 2018, 28, 1702570.	7.8	31
704	Bioengineering of emulsifier structure: emulsan analogs. Canadian Journal of Microbiology, 1997, 43, 384-390.	0.8	30
705	Tissue response and biodegradation of composite scaffolds prepared from Thai silk fibroin, gelatin and hydroxyapatite. Journal of Materials Science: Materials in Medicine, 2010, 21, 3151-3162.	1.7	30
706	Temperature response of the neuronal cytoskeleton mapped via atomic force and fluorescence microscopy. Physical Biology, 2013, 10, 056002.	0.8	30
707	Biomineralization regulation by nanoâ€sized features in silk fibroin proteins: Synthesis of waterâ€dispersible nanoâ€hydroxyapatite. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2014, 102, 1720-1729.	1.6	30
708	Enzymatic Mineralization of Silk Scaffolds. Macromolecular Bioscience, 2014, 14, 991-1003.	2.1	30
709	Stabilization of Natural Antioxidants by Silk Biomaterials. ACS Applied Materials & Interfaces, 2016, 8, 13573-13582.	4.0	30
710	Recombinant Collagen Engineered to Bind to Discoidin Domain Receptor Functions as a Receptor Inhibitor. Journal of Biological Chemistry, 2016, 291, 4343-4355.	1.6	30
711	Niclosamide rescues microcephaly in a humanized <i>in vivo</i> model of Zika infection using human induced neural stem cells. Biology Open, 2018, 7, .	0.6	30
712	Reactivity of different oxidases with lignins and lignin model compounds. Phytochemistry, 1979, 18, 1917-1919.	1.4	29
713	Are Hydroxyl-Containing Biomolecules Important in Biosilicification? A Model Study. Journal of Physical Chemistry B, 2007, 111, 4630-4638.	1.2	29
714	Preadipocytes Stimulate Ductal Morphogenesis and Functional Differentiation of Human Mammary Epithelial Cells on 3D Silk Scaffolds. Tissue Engineering - Part A, 2009, 15, 3087-3098.	1.6	29
715	The consolidation behavior of silk hydrogels. Journal of the Mechanical Behavior of Biomedical Materials, 2010, 3, 278-289.	1.5	29
716	Patterned Silk Film Scaffolds for Aligned Lamellar Bone Tissue Engineering. Macromolecular Bioscience, 2012, 12, 1671-1679.	2.1	29
717	Bioengineered Silk Proteins to Control Cell and Tissue Functions. Methods in Molecular Biology, 2013, 996, 19-41.	0.4	29
718	Involvement of TGFÂ1 in autocrine regulation of proplatelet formation in healthy subjects and patients with primary myelofibrosis. Haematologica, 2013, 98, 514-517.	1.7	29
719	The behavior of neuronal cells on tendon-derived collagen sheets as potential substrates for nerve regeneration. Biomaterials, 2014, 35, 3551-3557.	5.7	29
720	Electrodeposited silk coatings for bone implants. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2015, 103, 1602-1609.	1.6	29

#	ARTICLE	IF	CITATIONS
721	Engineering Biomaterialâ€"Drug Conjugates for Local and Sustained Chemotherapeutic Delivery. Bioconjugate Chemistry, 2015, 26, 1212-1223.	1.8	29
722	Control of silicification by genetically engineered fusion proteins: Silkâ€"silica binding peptides. Acta Biomaterialia, 2015, 15, 173-180.	4.1	29
723	Delivery of chondroitinase ABC and glial cell line-derived neurotrophic factor from silk fibroin conduits enhances peripheral nerve regeneration. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 733-742.	1.3	29
724	Protein composites from silkworm cocoons as versatile biomaterials. Acta Biomaterialia, 2021, 121, 180-192.	4.1	29
725	Decomposition of lignins by microorganisms. Soil Biology and Biochemistry, 1980, 12, 65-75.	4.2	28
726	Effects of Substitution Site on Acetyl Amylose Biodegradability by Amylase Enzymes. Macromolecules, 1996, 29, 1-9.	2.2	28
727	Effects of Hyperinsulinemia on Lipolytic Function of Three-Dimensional Adipocyte/Endothelial Co-Cultures. Tissue Engineering - Part C: Methods, 2010, 16, 1157-1165.	1.1	28
728	Silk for Drug Delivery Applications: Opportunities and Challenges. Israel Journal of Chemistry, 2013, 53, 756-766.	1.0	28
729	Rapid fabrication of silk films with controlled architectures via electrogelation. Journal of Materials Chemistry B, 2014, 2, 4983.	2.9	28
730	Effects of clodronate and alendronate on osteoclast and osteoblast co-cultures on silkâ€"hydroxyapatite films. Acta Biomaterialia, 2014, 10, 486-493.	4.1	28
731	DNA preservation in silk. Biomaterials Science, 2017, 5, 1279-1292.	2.6	28
732	Modular flow chamber for engineering bone marrow architecture and function. Biomaterials, 2017, 146, 60-71.	5.7	28
733	Sonication Exfoliation of Defect-Free Graphene in Aqueous Silk Nanofiber Solutions. ACS Sustainable Chemistry and Engineering, 2018, 6, 12261-12267.	3.2	28
734	In Vitro Insect Muscle for Tissue Engineering Applications. ACS Biomaterials Science and Engineering, 2019, 5, 1071-1082.	2.6	28
735	Facile production of natural silk nanofibers for electronic device applications. Composites Science and Technology, 2020, 187, 107950.	3.8	28
736	Functional Characterization of Three-Dimensional Cortical Cultures for InÂVitro Modeling of Brain Networks. IScience, 2020, 23, 101434.	1.9	28
737	Generation of Nano-pores in Silk Fibroin Films Using Silk Nanoparticles for Full-Thickness Wound Healing. Biomacromolecules, 2021, 22, 546-556.	2.6	28
738	Challenges in delivering therapeutic peptides and proteins: A silk-based solution. Journal of Controlled Release, 2022, 345, 176-189.	4.8	28

#	ARTICLE	IF	CITATIONS
739	In Vitro Enzyme-Induced Vinyl Polymerization. , 0, , 211-224.		27
740	Simple Modular Bioreactors for Tissue Engineering: A System for Characterization of Oxygen Gradients, Human Mesenchymal Stem Cell Differentiation, and Prevascularization. Tissue Engineering - Part C: Methods, 2010, 16, 1565-1573.	1.1	27
741	Differences in Cytotoxicity of Î²â€Sheet Peptides Originated from Silk and Amyloid Î². Macromolecular Bioscience, 2011, 11, 60-64.	2.1	27
742	Seamless, axially aligned, fiber tubes, meshes, microbundles and gradient biomaterial constructs. Journal of Materials Science: Materials in Medicine, 2012, 23, 2679-2695.	1.7	27
743	Effect of sequence features on assembly of spider silk block copolymers. Journal of Structural Biology, 2014, 186, 412-419.	1.3	27
744	Into the groove: instructive silk-polypyrrole films with topographical guidance cues direct DRG neurite outgrowth. Journal of Biomaterials Science, Polymer Edition, 2015, 26, 1327-1342.	1.9	27
745	Comparison of the depolarization response of human mesenchymal stem cells from different donors. Scientific Reports, 2016, 5, 18279.	1.6	27
746	Localized Immunomodulatory Silk Macrocapsules for Islet-like Spheroid Formation and Sustained Insulin Production. ACS Biomaterials Science and Engineering, 2017, 3, 2443-2456.	2.6	27
747	Silk-based biomaterials functionalized with fibronectin type II promotes cell adhesion. Acta Biomaterialia, 2017, 47, 50-59.	4.1	27
748	Enzyme-Mediated Conjugation of Peptides to Silk Fibroin for Facile Hydrogel Functionalization. Annals of Biomedical Engineering, 2020, 48, 1905-1915.	1.3	27
749	Acute multidrug delivery via a wearable bioreactor facilitates long-term limb regeneration and functional recovery in adult <i>Xenopus laevis</i>. Science Advances, 2022, 8, eabj2164.	4.7	27
750	Genetically engineered pH-responsive silk sericin nanospheres with efficient therapeutic effect on ulcerative colitis. Acta Biomaterialia, 2022, 144, 81-95.	4.1	27
751	Problems with toluene and the determination of extracellular enzyme activity in soils. Soil Biology and Biochemistry, 1979, 11, 335-338.	4.2	26
752	Biosensors for pesticide detection based on alkaline phosphatase-catalyzed chemiluminescence. Materials Science and Engineering C, 1995, 2, 191-196.	3.8	26
753	Characterization of Transcript Levels for Matrix Molecules and Proteases in Ruptured Human Anterior Cruciate Ligaments. Connective Tissue Research, 2005, 46, 53-65.	1.1	26
754	Protein Engineering of Wzc To Generate New Emulsan Analogs. Applied and Environmental Microbiology, 2007, 73, 4020-4028.	1.4	26
755	Bioreactor System Using Noninvasive Imaging and Mechanical Stretch for Biomaterial Screening. Annals of Biomedical Engineering, 2011, 39, 1390-1402.	1.3	26
756	Isolation and Maintenance-Free Culture of Contractile Myotubes from Manduca sexta Embryos. PLoS ONE, 2012, 7, e31598.	1.1	26

#	ARTICLE	IF	CITATIONS
757	In Vivo Biological Responses to Silk Proteins Functionalized with Bone Sialoprotein. Macromolecular Bioscience, 2013, 13, 444-454.	2.1	26
758	One-step synthesis of biocompatible magnetite/silk fibroin coreâ€"shell nanoparticles. Journal of Materials Chemistry B, 2014, 2, 7394-7402.	2.9	26
759	Characteristics of platelet gels combined with silk. Biomaterials, 2014, 35, 3678-3687.	5.7	26
760	Coculture of dorsal root ganglion neurons and differentiated human corneal stromal stem cells on silk-based scaffolds. Journal of Biomedical Materials Research - Part A, 2015, 103, 3339-3348.	2.1	26
761	Methods and Applications of Multilayer Silk Fibroin Laminates Based on Spatially Controlled Welding in Protein Films. Advanced Functional Materials, 2016, 26, 44-50.	7.8	26
762	Heparin-Modified Polyethylene Glycol Microparticle Aggregates for Focal Cancer Chemotherapy. ACS Biomaterials Science and Engineering, 2016, 2, 2287-2293.	2.6	26
763	Fabrication and Characterization of Recombinant Silkâ€Elastinâ€Likeâ€Protein (SELP) Fiber. Macromolecular Bioscience, 2018, 18, e1800265.	2.1	26
764	Collagen Gly missense mutations: Effect of residue identity on collagen structure and integrin binding. Journal of Structural Biology, 2018, 203, 255-262.	1.3	26
765	Liquid-Exfoliated Mesostructured Collagen from the Bovine Achilles Tendon as Building Blocks of Collagen Membranes. ACS Applied Materials & Interfaces, 2021, 13, 3186-3198.	4.0	26
766	Cronkhite-Canada Syndrome.. International Journal of Dermatology, 1990, 29, 121-125.	0.5	25
767	A Biotinylated Undecylthiophene Copolymer Bioconjugate for Surface Immobilization:Â Creating an Alkaline Phosphatase Chemiluminescence-Based Biosensor. Bioconjugate Chemistry, 1996, 7, 159-164.	1.8	25
768	Modifications and applications of the Acinetobacter venetianus RAG-1 exopolysaccharide, the emulsan complex and its components. Applied Microbiology and Biotechnology, 2008, 81, 201-210.	1.7	25
769	Denatured Collagen Modulates the Phenotype of Normal and Wounded Human Skin Equivalents. Journal of Investigative Dermatology, 2008, 128, 1830-1837.	0.3	25
770	BioDome regenerative sleeve for biochemical and biophysical stimulation of tissue regeneration. Medical Engineering and Physics, 2010, 32, 1065-1073.	0.8	25
771	Effect of Î²-sheet crystalline content on mass transfer in silk films. Journal of Membrane Science, 2011, 383, 44-49.	4.1	25
772	Lipolytic Function of Adipocyte/Endothelial Cocultures. Tissue Engineering - Part A, 2011, 17, 1437-1444.	1.6	25
773	In Vitro Model of Metastasis to Bone Marrow Mediates Prostate Cancer Castration Resistant Growth through Paracrine and Extracellular Matrix Factors. PLoS ONE, 2012, 7, e40372.	1.1	25
774	Optimizing Molecular Weight of Lyophilized Silk As a Shelf-Stable Source Material. ACS Biomaterials Science and Engineering, 2016, 2, 595-605.	2.6	25

#	ARTICLE	IF	CITATIONS
775	A 3D intestinal tissue model supports Clostridioides difficile germination, colonization, toxin production and epithelial damage. Anaerobe, 2018, 50, 85-92.	1.0	25
776	Subtle Regulation of Scaffold Stiffness for the Optimized Control of Cell Behavior. ACS Applied Bio Materials, 2019, 2, 3108-3119.	2.3	25
777	Sustained release silk fibroin discs: Antibody and protein delivery for HIV prevention. Journal of Controlled Release, 2019, 301, 1-12.	4.8	25
778	Gold nanoparticle-doped biocompatible silk films as a path to implantable thermo-electrically wireless powering devices. Applied Physics Letters, 2010, 97, 123702.	1.5	24
779	Dielectric Breakdown Strength of Regenerated Silk Fibroin Films as a Function of Protein Conformation. Biomacromolecules, 2013, 14, 3509-3514.	2.6	24
780	Selfâ€(Un)rolling Biopolymer Microstructures: Rings, Tubules, and Helical Tubules from the Same Material. Angewandte Chemie - International Edition, 2015, 54, 8490-8493.	7.2	24
781	Encapsulation of volatile compounds in silk microparticles. Journal of Coatings Technology Research, 2015, 12, 793-799.	1.2	24
782	Rheology of reconstituted silk fibroin protein gels: the epitome of extreme mechanics. Soft Matter, 2015, 11, 756-761.	1.2	24
783	Self-Assembling Silk-Based Nanofibers with Hierarchical Structures. ACS Biomaterials Science and Engineering, 2017, 3, 2617-2627.	2.6	24
784	Delivery of chemotherapeutics using spheres made of bioengineered spider silks derived from MaSp1 and MaSp2 proteins. Nanomedicine, 2018, 13, 439-454.	1.7	24
785	Silkâ€Based Antimicrobial Polymers as a New Platform to Design Drugâ€Free Materials to Impede Microbial Infections. Macromolecular Bioscience, 2018, 18, e1800262.	2.1	24
786	Ductility and Porosity of Silk Fibroin Films by Blending with Glycerol/Polyethylene Glycol and Adjusting the Drying Temperature. ACS Biomaterials Science and Engineering, 2020, 6, 1176-1185.	2.6	24
787	Biâ€Layered Tubular Microfiber Scaffolds as Functional Templates for Engineering Human Intestinal Smooth Muscle Tissue. Advanced Functional Materials, 2020, 30, 2000543.	7.8	24
788	Smart Material Hydrogel Transfer Devices Fabricated with Stimuliâ€Responsive Silkâ€Elastinâ€Like Proteins. Advanced Healthcare Materials, 2020, 9, e2000266.	3.9	24
789	Intraarticularly injectable silk hydrogel microspheres with enhanced mechanical and structural stability to attenuate osteoarthritis. Biomaterials, 2022, 286, 121611.	5.7	24
790	Chemoenzymatic Synthesis and Study of Poly(Î±-methyl-Î²-propiolactone) Stereocopolymers. Macromolecules, 1996, 29, 4582-4590.	2.2	23
791	Enzymatic polymerization of amphiphilic alkyl tyrosine derivatives from emulsions. Materials Science and Engineering C, 1996, 4, 189-192.	3.8	23
792	Silk ionomers for encapsulation and differentiation of human MSCs. Biomaterials, 2012, 33, 7375-7385.	5.7	23

#	ARTICLE	IF	CITATIONS
793	Effects of Shiga Toxin Type 2 on a Bioengineered Three-Dimensional Model of Human Renal Tissue. Infection and Immunity, 2015, 83, 28-38.	1.0	23
794	Aqueous-Based Coaxial Electrospinning of Genetically Engineered Silk Elastin Core-Shell Nanofibers. Materials, 2016, 9, 221.	1.3	23
795	Optimization of silk films as substrate for functional corneal epithelium growth. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2016, 104, 431-441.	1.6	23
796	Fibrous proteins: At the crossroads of genetic engineering and biotechnological applications. Biotechnology and Bioengineering, 2016, 113, 913-929.	1.7	23
797	Immobilization of Recombinant <i>E. coli</i> Cells in a Bacterial Celluloseâ€“Silk Composite Matrix To Preserve Biological Function. ACS Biomaterials Science and Engineering, 2017, 3, 2278-2292.	2.6	23
798	Development of a Three-Dimensional Adipose Tissue Model for Studying Embryonic Exposures to Obesogenic Chemicals. Annals of Biomedical Engineering, 2017, 45, 1807-1818.	1.3	23
799	Control of octreotide release from silk fibroin microspheres. Materials Science and Engineering C, 2019, 102, 820-828.	3.8	23
800	Transgenic PDGF-BB/sericin hydrogel supports for cell proliferation and osteogenic differentiation. Biomaterials Science, 2020, 8, 657-672.	2.6	23
801	Synthesis and Characterization of Silk Ionomers for Layer-by-Layer Electrostatic Deposition on Individual Mammalian Cells. Biomacromolecules, 2020, 21, 2829-2843.	2.6	23
802	mRNA Delivery Using Bioreducible Lipidoid Nanoparticles Facilitates Neural Differentiation of Human Mesenchymal Stem Cells. Advanced Healthcare Materials, 2021, 10, e2000938.	3.9	23
803	Engineered Tough Silk Hydrogels through Assembling Î²-Sheet Rich Nanofibers Based on a Solvent Replacement Strategy. ACS Nano, 2022, 16, 10209-10218.	7.3	23
804	Trace Analysis of Zn(II), Be(II), and Bi(III) by Enzyme-Catalyzed Chemiluminescence. Analytical Chemistry, 1996, 68, 216-220.	3.2	22
805	Solvent effects in horseradish peroxidase-catalyzed polyphenol synthesis. Enzyme and Microbial Technology, 2002, 30, 3-9.	1.6	22
806	In vitro chondrogenic differentiation of human adipose-derived stem cells with silk scaffolds. Journal of Tissue Engineering, 2012, 3, 204173141246640.	2.3	22
807	The regulation of cystogenesis in a tissue engineered kidney disease system by abnormal matrix interactions. Biomaterials, 2012, 33, 8383-8394.	5.7	22
808	Epigenetically Modified Bone Marrow Stromal Cells in Silk Scaffolds Promote Craniofacial Bone Repair and Wound Healing. Tissue Engineering - Part A, 2015, 21, 2156-2165.	1.6	22
809	Silk electrogel coatings for titanium dental implants. Journal of Biomaterials Applications, 2015, 29, 1247-1255.	1.2	22
810	Silk microfiber-reinforced silk composite scaffolds: fabrication, mechanical properties, and cytocompatibility. Journal of Materials Science, 2016, 51, 3025-3035.	1.7	22

#	ARTICLE	IF	CITATIONS
811	Influence of silkâ€“silica fusion protein design on silica condensation in vitro and cellular calcification. RSC Advances, 2016, 6, 21776-21788.	1.7	22
812	<i>In situ</i> ultrasound imaging of silk hydrogel degradation and neovascularization. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 822-830.	1.3	22
813	SERS Substrate with Silk Nanoribbons as Interlayer Template. ACS Applied Materials & Interfaces, 2019, 11, 42896-42903.	4.0	22
814	Two- and Three-Dimensional Bioengineered Human Intestinal Tissue Models for Cryptosporidium. Methods in Molecular Biology, 2020, 2052, 373-402.	0.4	22
815	Flexible Water-Absorbing Silk-Fibroin Biomaterial Sponges with Unique Pore Structure for Tissue Engineering. ACS Biomaterials Science and Engineering, 2020, 6, 1641-1649.	2.6	22
816	Engineered 3D Silk-collagen-based Model of Polarized Neural Tissue. Journal of Visualized Experiments, 2015, , e52970.	0.2	22
817	End-to-End Deep Learning Model to Predict and Design Secondary Structure Content of Structural Proteins. ACS Biomaterials Science and Engineering, 2022, 8, 1156-1165.	2.6	22
818	Chemiluminescence-based inhibition kinetics of alkaline phosphatase in the development of a pesticide biosensor.. Biotechnology Progress, 1995, 11, 699-703.	1.3	21
819	Stabilization of horseradish peroxidase in silk materials. Frontiers of Materials Science in China, 2009, 3, 367-373.	0.5	21
820	Calcium phosphate combination biomaterials as human mesenchymal stem cell delivery vehicles for bone repair. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2011, 97B, 235-244.	1.6	21
821	Hormone-responsive 3D multicellular culture model of human breast tissue. Biomaterials, 2012, 33, 3411-3420.	5.7	21
822	Photoresponsive Retinal-Modified Silkâ€“Elastin Copolymer. Journal of the American Chemical Society, 2013, 135, 3675-3679.	6.6	21
823	Inhibitory Effect of Progesterone on Cervical Tissue Formation in a Three-Dimensional Culture System with Human Cervical Fibroblasts1. Biology of Reproduction, 2014, 90, 18.	1.2	21
824	Cellâ€Tethered Ligands Modulate Bone Remodeling by Osteoblasts and Osteoclasts. Advanced Functional Materials, 2014, 24, 472-479.	7.8	21
825	Selective depolarization of transmembrane potential alters muscle patterning and muscle cell localization in Xenopus laevis embryos. International Journal of Developmental Biology, 2015, 59, 303-311.	0.3	21
826	Static and Cyclic Mechanical Loading of Mesenchymal Stem Cells on Elastomeric, Electrospun Polyurethane Meshes. Journal of Biomechanical Engineering, 2015, 137, .	0.6	21
827	Mapping the Effect of Gly Mutations in Collagen on Î±2Î²1 Integrin Binding. Journal of Biological Chemistry, 2016, 291, 19196-19207.	1.6	21
828	Bimorph Silk Microsheets with Programmable Actuating Behavior: Experimental Analysis and Computer Simulations. ACS Applied Materials & Interfaces, 2016, 8, 17694-17706.	4.0	21

#	ARTICLE	IF	CITATIONS
829	Conformation Transitions of Recombinant Spidroins via Integration of Time-Resolved FTIR Spectroscopy and Molecular Dynamic Simulation. ACS Biomaterials Science and Engineering, 2016, 2, 1298-1308.	2.6	21
830	A Silk Fibroin and Peptide Amphiphileâ€Based Coâ€Culture Model for Osteochondral Tissue Engineering. Macromolecular Bioscience, 2016, 16, 1212-1226.	2.1	21
831	Phenol red-silk tyrosine cross-linked hydrogels. Acta Biomaterialia, 2016, 42, 102-113.	4.1	21
832	Biodegradable porous silk microtubes for tissue vascularization. Journal of Materials Chemistry B, 2017, 5, 1227-1235.	2.9	21
833	Predicting rates of <i>in vivo</i> degradation of recombinant spider silk proteins. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, e97-e105.	1.3	21
834	In vitro and in vivo evaluation of etoposide - silk wafers for neuroblastoma treatment. Journal of Controlled Release, 2018, 285, 162-171.	4.8	21
835	Unraveling the molecular mechanisms of thermo-responsive properties of silk-elastin-like proteins by integrating multiscale modeling and experiment. Journal of Materials Chemistry B, 2018, 6, 3727-3734.	2.9	21
836	Human Corneal Tissue Model for Nociceptive Assessments. Advanced Healthcare Materials, 2018, 7, e1800488.	3.9	21
837	Variations of Elastic Modulus and Cell Volume with Temperature for Cortical Neurons. Langmuir, 2019, 35, 10965-10976.	1.6	21
838	Modeling Controlled Cortical Impact Injury in 3D Brainâ€Like Tissue Cultures. Advanced Healthcare Materials, 2020, 9, e2000122.	3.9	21
839	Rheological characterization, compression, and injection molding of hydroxyapatite-silk fibroin composites. Biomaterials, 2021, 269, 120643.	5.7	21
840	The Short-Chain Fatty Acids Propionate and Butyrate Augment Adherent-Invasive Escherichia coli Virulence but Repress Inflammation in a Human Intestinal Enteroid Model of Infection. Microbiology Spectrum, 2021, 9, e0136921.	1.2	21
841	Conformation-driven strategy for resilient and functional protein materials. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	21
842	Liquid Crystallinity of a Biological Polysaccharide: The Levan/Water Phase Diagram. Macromolecules, 1994, 27, 953-957.	2.2	20
843	A chemiluminescence-based biosensor for metal ion detection. Materials Science and Engineering C, 1995, 3, 79-83.	3.8	20
844	Enzyme-Based Vinyl Polymerization. Journal of Polymers and the Environment, 2002, 10, 85-91.	2.4	20
845	Synthetic Adipose Tissue Models for Studying Mammary Gland Development and Breast Tissue Engineering. Journal of Mammary Gland Biology and Neoplasia, 2010, 15, 365-376.	1.0	20
846	Heparin stimulates elastogenesis: Application to silk-based vascular grafts. Matrix Biology, 2011, 30, 346-355.	1.5	20

#	ARTICLE	IF	CITATIONS
847	Surface immobilization of antibody on silk fibroin through conformational transition. Acta Biomaterialia, 2011, 7, 2782-2786.	4.1	20
848	Optically induced birefringence and holography in silk. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 257-262.	2.4	20
849	Silk-Based Injectable Biomaterial as an Alternative to Cervical Cerclage: An In Vitro Study. Reproductive Sciences, 2013, 20, 929-936.	1.1	20
850	Artificial Polymeric Scaffolds as Extracellular Matrix Substitutes for Autologous Conjunctival Goblet Cell Expansion. , 2016, 57, 6134.		20
851	Fabrication of Protein Films from Genetically Engineered Silk-Elastin-Like Proteins by Controlled Cross-Linking. ACS Biomaterials Science and Engineering, 2017, 3, 335-341.	2.6	20
852	Introducing biomimetic shear and ion gradients to microfluidic spinning improves silk fiber strength. Biofabrication, 2017, 9, 025025.	3.7	20
853	Modeling and Experiment Reveal Structure and Nanomechanics across the Inverse Temperature Transition in B. mori Silk-Elastin-like Protein Polymers. ACS Biomaterials Science and Engineering, 2017, 3, 2889-2899.	2.6	20
854	Silk Nanofibers as Robust and Versatile Emulsifiers. ACS Applied Materials & Interfaces, 2017, 9, 35693-35700.	4.0	20
855	Variability in responses observed in human white adipose tissue models. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, 840-847.	1.3	20
856	Silk Biomaterials-Mediated miRNA Functionalized Orthopedic Devices. Tissue Engineering - Part A, 2019, 25, 12-23.	1.6	20
857	Influence of Supramolecular Template Organization on Mineralization. The Journal of Physical Chemistry, 1995, 99, 12065-12068.	2.9	19
858	Chemoenzymatic Route to Poly(3-hydroxybutyrate) Stereoisomers. Macromolecules, 1996, 29, 3857-3861.	2.2	19
859	Sequence-specific liquid crystallinity of collagen model peptides. I. Transmission electron microscopy studies of interfacial collagen gels. Biopolymers, 2000, 53, 350-362.	1.2	19
860	Impact of collagen structure on matrix trafficking by human fibroblasts. Journal of Biomedical Materials Research Part B, 2004, 70A, 39-48.	3.0	19
861	Osteogenesis Imperfecta Collagen-Like Peptides: Self-Assembly and Mineralization on Surfaces. Biomacromolecules, 2008, 9, 1551-1557.	2.6	19
862	Biological responses to spider silk-antibiotic fusion protein. Journal of Tissue Engineering and Regenerative Medicine, 2012, 6, 356-368.	1.3	19
863	Extending Human Hematopoietic Stem Cell Survival<i>In Vitro</i>with Adipocytes. BioResearch Open Access, 2013, 2, 179-185.	2.6	19
864	Shining Light on Collagen: Expressing Collagen in Plants. Tissue Engineering - Part A, 2013, 19, 1499-1501.	1.6	19

#	ARTICLE	IF	CITATIONS
865	Stability of Silk and Collagen Protein Materials in Space. Scientific Reports, 2013, 3, 3428.	1.6	19
866	Synthesis and characterization of biocompatible nanodiamond-silk hybrid material. Biomedical Optics Express, 2014, 5, 596.	1.5	19
867	Biocompatibility of a Sonicated Silk Gel for Cervical Injection During Pregnancy: In Vivo and In Vitro Study. Reproductive Sciences, 2014, 21, 1266-1273.	1.1	19
868	Silk Fibroinâ€Carbon Nanotube Composite Electrodes for Flexible Biocatalytic Fuel Cells. Advanced Electronic Materials, 2016, 2, 1600190.	2.6	19
869	Increased stem cells delivered using a silk gel/scaffold complex for enhanced bone regeneration. Scientific Reports, 2017, 7, 2175.	1.6	19
870	Stabilization and Sustained Release of HIV Inhibitors by Encapsulation in Silk Fibroin Disks. ACS Biomaterials Science and Engineering, 2017, 3, 1654-1665.	2.6	19
871	Avidin Adsorption to Silk Fibroin Films as a Facile Method for Functionalization. Biomacromolecules, 2018, 19, 3705-3713.	2.6	19
872	Three-dimensional tissue culture model of human breast cancer for the evaluation of multidrug resistance. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, 1959-1971.	1.3	19
873	Possibilities for Engineered Insect Tissue as a Food Source. Frontiers in Sustainable Food Systems, 2019, 3, .	1.8	19
874	Effect of the silica nanoparticle size on the osteoinduction of biomineralized silk-silica nanocomposites. Acta Biomaterialia, 2021, 120, 203-212.	4.1	19
875	In Vitro Models of Intestine Innate Immunity. Trends in Biotechnology, 2021, 39, 274-285.	4.9	19
876	Biodegradation of Glycidol and Glycidyl Nitrate. Applied and Environmental Microbiology, 1982, 43, 144-150.	1.4	19
877	Gas chromatographic analysis of glycols to determine biodegradability. Environmental Science & Technology, 1982, 16, 723-725.	4.6	18
878	The monomolecular organization of a photodynamic protein system through specific surface recognition of streptavidin by biotinylated Langmuir-Blodgett films. Langmuir, 1992, 8, 604-608.	1.6	18
879	Polymerization of Propyl Malolactonate in the Presence ofCandidarugosaLipase. Biomacromolecules, 2003, 4, 19-27.	2.6	18
880	Modification of Thai Silk Fibroin Scaffolds by Gelatin Conjugation for Tissue Engineering. Advanced Materials Research, 2008, 55-57, 685-688.	0.3	18
881	A model for the stretch-mediated enzymatic degradation of silk fibers. Journal of the Mechanical Behavior of Biomedical Materials, 2010, 3, 538-547.	1.5	18
882	The degradation of chondrogenic pellets using cocultures of synovial fibroblasts and U937 cells. Biomaterials, 2014, 35, 1185-1191.	5.7	18

#	ARTICLE	IF	CITATIONS
883	Translational approaches to functional platelet production ex vivo. Thrombosis and Haemostasis, 2016, 115, 250-256.	1.8	18
884	Silk Reservoirs for Local Delivery of Cisplatin for Neuroblastoma Treatment: InÂVitro and InÂVivo Evaluations. Journal of Pharmaceutical Sciences, 2019, 108, 2748-2755.	1.6	18
885	Interplay of structure and mechanics in silk/carbon nanocomposites. MRS Bulletin, 2019, 44, 53-58.	1.7	18
886	Adverse effects of Alport syndrome-related Gly missense mutations on collagen type IV: Insights from molecular simulations and experiments. Biomaterials, 2020, 240, 119857.	5.7	18
887	Microfluidic Silk Fibers with Aligned Hierarchical Microstructures. ACS Biomaterials Science and Engineering, 2020, 6, 2847-2854.	2.6	18
888	Exopolymers from curdlan production: incorporation of glucose-related sugars by Agrobacterium sp. strain ATCC 31749. Canadian Journal of Microbiology, 1997, 43, 149-156.	0.8	17
889	Spiderless spider webs. Nature Biotechnology, 2002, 20, 239-240.	9.4	17
890	BMP-2 Gene Modified Canine bMSCs Promote Ectopic Bone Formation Mediated by a Nonviral PEI Derivative. Annals of Biomedical Engineering, 2011, 39, 1829-1839.	1.3	17
891	Suppression of neurocan and enhancement of axonal density in rats after treatment of traumatic brain injury with scaffolds impregnated with bone marrow stromal cells. Journal of Neurosurgery, 2014, 120, 1147-1155.	0.9	17
892	In vitro evaluation of bi-layer silk fibroin scaffolds for gastrointestinal tissue engineering. Journal of Tissue Engineering, 2014, 5, 204173141455684.	2.3	17
893	Degradation of Silk Films in Multipocket Corneal Stromal Rabbit Models. Journal of Applied Biomaterials and Functional Materials, 2016, 14, e266-e276.	0.7	17
894	Bone tissue engineering with scaffold-supported perfusion co-cultures of human stem cell-derived osteoblasts and cell line-derived osteoclasts. Process Biochemistry, 2017, 59, 303-311.	1.8	17
895	Silk coating on a bioactive ceramic scaffold for bone regeneration: effective enhancement of mechanical and <i>in vitro</i> osteogenic properties towards load-bearing applications. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 1741-1753.	1.3	17
896	Silk fibroin-based woven endovascular prosthesis with heparin surface modification. Journal of Materials Science: Materials in Medicine, 2018, 29, 46.	1.7	17
897	Structureâ€"Chemical Modification Relationships with Silk Materials. ACS Biomaterials Science and Engineering, 2019, 5, 2762-2768.	2.6	17
898	Human Adipose Derived Cells in Two- and Three-Dimensional Cultures: Functional Validation of an In Vitro Fat Construct. Stem Cells International, 2020, 2020, 1-14.	1.2	17
899	Ethanol-induced coacervation in aqueous gelatin solution for constructing nanospheres and networks: Morphology, dynamics and thermal sensitivity. Journal of Colloid and Interface Science, 2021, 582, 610-618.	5.0	17
900	Silk Hydrogels with Controllable Formation of Dityrosine, 3,4-Dihydroxyphenylalanine, and 3,4-Dihydroxyphenylalanineâ€"Fe³⁺ Complexes through Chitosan Particle-Assisted Fenton Reactions. Biomacromolecules, 2021, 22, 773-787.	2.6	17

#	ARTICLE	IF	CITATIONS
901	Perspectives on scaling production of adipose tissue for food applications. Biomaterials, 2022, 280, 121273.	5.7	17
902	Vitamin C Functionalized Poly(Methyl Methacrylate) for Free Radical Scavenging. Journal of Macromolecular Science - Pure and Applied Chemistry, 2004, 41, 1377-1386.	1.2	16
903	Extracellular matrix remodelingâ€"Methods to quantify cellâ€"matrix interactions. Biomaterials, 2007, 28, 151-161.	5.7	16
904	Oxygen Tension and Formation of Cervical-Like Tissue in Two-Dimensional and Three-Dimensional Culture. Tissue Engineering - Part A, 2012, 18, 499-507.	1.6	16
905	Bioengineered Chimeric Spider Silkâ€Uranium Binding Proteins. Macromolecular Bioscience, 2013, 13, 256-264.	2.1	16
906	Rapid prototyped sutureless anastomosis device from selfâ€curing silk bioâ€ink. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2015, 103, 1333-1343.	1.6	16
907	Electrodeposited gels prepared from protein alloys. Nanomedicine, 2015, 10, 803-814.	1.7	16
908	Absorbable Biologically Based Internal Fixation. Clinics in Podiatric Medicine and Surgery, 2015, 32, 61-72.	0.2	16
909	Tissue-engineered 3D cancer-in-bone modeling: silk and PUR protocols. BoneKEy Reports, 2016, 5, 842.	2.7	16
910	Silk fibroin based carrier system for delivery of fibrinogen and thrombin as coagulant supplements. Journal of Biomedical Materials Research - Part A, 2017, 105, 687-696.	2.1	16
911	Silk Molecular Weight Influences the Kinetics of Enzymatically Cross-linked Silk Hydrogel Formation. Langmuir, 2018, 34, 15383-15387.	1.6	16
912	Human Skin Equivalents Demonstrate Need for Neuroâ€Immunoâ€Cutaneous System. Advanced Biology, 2019, 3, 1800283.	3.0	16
913	Natural Nanofiber Shuttles for Transporting Hydrophobic Cargo into Aqueous Solutions. Biomacromolecules, 2020, 21, 1022-1030.	2.6	16
914	Tunable Biodegradable Silk-Based Memory Foams with Controlled Release of Antibiotics. ACS Applied Bio Materials, 2020, 3, 2466-2472.	2.3	16
915	Injectable silk nanofiber hydrogels as stem cell carriers to accelerate wound healing. Journal of Materials Chemistry B, 2021, 9, 7771-7781.	2.9	16
916	Mechanical Trainingâ€Driven Structural Remodeling: A Rational Route for Outstanding Highly Hydrated Silk Materials. Small, 2021, 17, e2102660.	5.2	16
917	Self-Organization (Assembly) in Biosynthesis of Silk Fibers - A Hierarchical Problem. Materials Research Society Symposia Proceedings, 1991, 255, 19.	0.1	15
918	Preliminary Characterization of Resilin Isolated from the Cockroach,<i>Periplaneta Americana</i>. Materials Research Society Symposia Proceedings, 1992, 292, 3.	0.1	15

#	ARTICLE	IF	CITATIONS
919	Silk Film Culture System for in vitro Analysis and Biomaterial Design. Journal of Visualized Experiments, 2012, , .	0.2	15
920	Silk Layering As Studied with Neutron Reflectivity. Langmuir, 2012, 28, 11481-11489.	1.6	15
921	Encapsulation of oil in silk fibroin biomaterials. Journal of Applied Polymer Science, 2014, 131, .	1.3	15
922	Membrane potential depolarization causes alterations in neuron arrangement and connectivity in cocultures. Brain and Behavior, 2015, 5, 24-38.	1.0	15
923	Printed Dual Cell Arrays for Multiplexed Sensing. ACS Biomaterials Science and Engineering, 2015, 1, 287-294.	2.6	15
924	Spider Silk-CBD-Cellulose Nanocrystal Composites: Mechanism of Assembly. International Journal of Molecular Sciences, 2016, 17, 1573.	1.8	15
925	Mechanical and Biochemical Effects of Progesterone on Engineered Cervical Tissue. Tissue Engineering - Part A, 2018, 24, 1765-1774.	1.6	15
926	Film interface for drug testing for delivery to cells in culture and in the brain. Acta Biomaterialia, 2019, 94, 306-319.	4.1	15
927	Engineering advanced neural tissue constructs to mitigate acute cerebral inflammation after brain transplantation in rats. Biomaterials, 2019, 192, 510-522.	5.7	15
928	Selfâ€Folding 3D Silk Biomaterial Rolls to Facilitate Axon and Bone Regeneration. Advanced Healthcare Materials, 2020, 9, e2000530.	3.9	15
929	ColGen: An end-to-end deep learning model to predict thermal stability of de novo collagen sequences. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 125, 104921.	1.5	15
930	Cytoprotection of Human Progenitor and Stem Cells through Encapsulation in Alginate Templated, Dual Crosslinked Silk and Silkâ€"Gelatin Composite Hydrogel Microbeads. Advanced Healthcare Materials, 2022, 11, .	3.9	15
931	Evaluation of Biomaterials for Bladder Augmentation using Cystometric Analyses in Various Rodent Models. Journal of Visualized Experiments, 2012, , .	0.2	14
932	Neuronal growth as diffusion in an effective potential. Physical Review E, 2013, 88, 042707.	0.8	14
933	Characterization of Small Molecule Controlled Release From Silk Films. Macromolecular Chemistry and Physics, 2013, 214, 280-294.	1.1	14
934	Silk microgels formed by proteolytic enzyme activity. Acta Biomaterialia, 2013, 9, 8192-8199.	4.1	14
935	Elastin biology and tissue engineering with adult cells. Biomolecular Concepts, 2013, 4, 173-185.	1.0	14
936	Multifunctional Silkï£¿Tropoelastin Biomaterial Systems. Israel Journal of Chemistry, 2013, 53, 777-786.	1.0	14

#	ARTICLE	IF	CITATIONS
937	Neural circuits with long-distance axon tracts for determining functional connectivity. Journal of Neuroscience Methods, 2014, 222, 82-90.	1.3	14
938	Hierarchical charge distribution controls self-assembly process of silk in vitro. Frontiers of Materials Science, 2015, 9, 382-391.	1.1	14
939	Silk-regulated hierarchical hollow magnetite/carbon nanocomposite spheroids for lithium-ion battery anodes. Nanotechnology, 2015, 26, 115603.	1.3	14
940	Photo-induced structural modification of silk gels containing azobenzene side groups. Soft Matter, 2017, 13, 2903-2906.	1.2	14
941	Tutorials for Electrophysiological Recordings in Neuronal Tissue Engineering. ACS Biomaterials Science and Engineering, 2017, 3, 2235-2246.	2.6	14
942	Interfacial Shear Strength and Adhesive Behavior of Silk Ionomer Surfaces. Biomacromolecules, 2017, 18, 2876-2886.	2.6	14
943	Integrated Modeling and Experimental Approaches to Control Silica Modification of Design Silk-Based Biomaterials. ACS Biomaterials Science and Engineering, 2017, 3, 2877-2888.	2.6	14
944	Organotypic culture to assess cell adhesion, growth and alignment of different organs on silk fibroin. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 354-361.	1.3	14
945	Silk Fibroinâ€Based Fibrous Anal Fistula Plug with Drug Delivery Function. Macromolecular Bioscience, 2018, 18, e1700384.	2.1	14
946	Stabilization of RNA Encapsulated in Silk. ACS Biomaterials Science and Engineering, 2018, 4, 1708-1715.	2.6	14
947	Self-assembling oxidized silk fibroin nanofibrils with controllable fractal dimensions. Journal of Materials Chemistry B, 2018, 6, 4656-4664.	2.9	14
948	Pharmaceutical Approaches to HIV Treatment and Prevention. Advanced Therapeutics, 2018, 1, 1800054.	1.6	14
949	Disseminated injection of vincristine-loaded silk gel improves the suppression of neuroblastoma tumor growth. Surgery, 2018, 164, 909-915.	1.0	14
950	Advanced Cell and Tissue Biomanufacturing. ACS Biomaterials Science and Engineering, 2018, 4, 2292-2307.	2.6	14
951	Tuning Microcapsule Shell Thickness and Structure with Silk Fibroin and Nanoparticles for Sustained Release. ACS Biomaterials Science and Engineering, 2020, 6, 4583-4594.	2.6	14
952	Assessing the compatibility of primary human hepatocyte culture within porous silk sponges. RSC Advances, 2020, 10, 37662-37674.	1.7	14
953	Liquid Crystalline Texture in Glycine-Modified Diacetylene Langmuir Monolayers at Room Temperature. The Journal of Physical Chemistry, 1995, 99, 492-495.	2.9	13
954	Tissue Equivalents Based on Cell-Seeded Biodegradable Microfluidic Constructs. Materials, 2010, 3, 1833-1844.	1.3	13

#	ARTICLE	IF	CITATIONS
955	Modular Elastic Patches: Mechanical and Biological Effects. Biomacromolecules, 2010, 11, 2230-2237.	2.6	13
956	An Ectopic Study of Apatite-Coated Silk Fibroin Scaffolds Seeded with AdBMP-2-Modified Canine bMSCs. Journal of Biomaterials Science, Polymer Edition, 2012, 23, 509-526.	1.9	13
957	Determination of multiphoton absorption of silk fibroin using the Z-scan technique. Optics Express, 2013, 21, 29637.	1.7	13
958	Adhesion Prevention after Laminectomy Using Silkâ€Polyethylene Glycol Hydrogels. Advanced Healthcare Materials, 2015, 4, 2120-2127.	3.9	13
959	Evaluation of Silk Inverse Opals for â€œSmartâ€•Tissue Culture. ACS Omega, 2017, 2, 470-477.	1.6	13
960	Fabrication of elastomeric silk fibers. Biopolymers, 2017, 107, e23030.	1.2	13
961	Modeling Diabetic Corneal Neuropathy in a 3D In Vitro Cornea System. Scientific Reports, 2018, 8, 17294.	1.6	13
962	Enzymatic Phosphorylation of Ser in a Type I Collagen Peptide. Biophysical Journal, 2018, 115, 2327-2335.	0.2	13
963	Bioengineered in vitro enteric nervous system. Journal of Tissue Engineering and Regenerative Medicine, 2019, 13, 1712-1723.	1.3	13
964	Vascular Pedicle and Microchannels: Simple Methods Toward Effective In Vivo Vascularization of 3D Scaffolds. Advanced Healthcare Materials, 2019, 8, 1901106.	3.9	13
965	Design of Silk-Elastin-Like Protein Nanoparticle Systems with Mucoadhesive Properties. Journal of Functional Biomaterials, 2019, 10, 49.	1.8	13
966	Injectable Silk-Based Hydrogel as an Alternative to Cervical Cerclage: A Rabbit Study. Tissue Engineering - Part A, 2020, 26, 379-386.	1.6	13
967	Genetic inhibition of RIPK3 ameliorates functional outcome in controlled cortical impact independent of necroptosis. Cell Death and Disease, 2021, 12, 1064.	2.7	13
968	Enzymatic polymerizations using surfactant microstructures and the preparation of polymer-ferrite composites. Applied Biochemistry and Biotechnology, 1995, 51-52, 241-252.	1.4	12
969	Structural Mimetic Silk Fiber-Reinforced Composite Scaffolds Using Multi-Angle Fibers. Macromolecular Bioscience, 2015, 15, 1125-1133.	2.1	12
970	Sustained delivery of vincristine inside an orthotopic mouse sarcoma model decreases tumor growth. Journal of Pediatric Surgery, 2016, 51, 2058-2062.	0.8	12
971	Manipulation of variables in local controlled release vincristine treatment in neuroblastoma. Journal of Pediatric Surgery, 2017, 52, 2061-2065.	0.8	12
972	Injectable Silkâ€“Vaterite Composite Hydrogels with Tunable Sustained Drug Release Capacity. ACS Biomaterials Science and Engineering, 2019, 5, 6602-6609.	2.6	12

#	ARTICLE	IF	CITATIONS
973	Defined extracellular ionic solutions to study and manipulate the cellular resting membrane potential. Biology Open, 2020, 9, .	0.6	12
974	Spinning Regenerated Silk Fibers with Improved Toughness by Plasticizing with Low Molecular Weight Silk. Biomacromolecules, 2021, 22, 788-799.	2.6	12
975	On-Demand Regulation of Dual Thermosensitive Protein Hydrogels. ACS Macro Letters, 2021, 10, 395-400.	2.3	12
976	Pressure-driven spreadable deferoxamine-laden hydrogels for vascularized skin flaps. Biomaterials Science, 2021, 9, 3162-3170.	2.6	12
977	A Tunable Silk Hydrogel Device for Studying Limb Regeneration in Adult Xenopus Laevis. PLoS ONE, 2016, 11, e0155618.	1.1	12
978	Bioengineered models of Parkinsonâ€™s disease using patient-derived dopaminergic neurons exhibit distinct biological profiles in a 3D microenvironment. Cellular and Molecular Life Sciences, 2022, 79, 78.	2.4	12
979	Emulsanâ€"Alginate Beads for Protein Adsorption. Journal of Biomaterials Science, Polymer Edition, 2009, 20, 411-426.	1.9	11
980	Enhanced Stabilization in Dried Silk Fibroin Matrices. Biomacromolecules, 2017, 18, 2900-2905.	2.6	11
981	Tissue Models for Neurogenesis and Repair in 3D. Advanced Functional Materials, 2018, 28, 1803822.	7.8	11
982	Ivermectin Promotes Peripheral Nerve Regeneration during Wound Healing. ACS Omega, 2018, 3, 12392-12402.	1.6	11
983	Bioinspired Energy Storage and Harvesting Devices. Advanced Materials Technologies, 2021, 6, 2001301.	3.0	11
984	Toughening Wetâ€Spun Silk Fibers by Silk Nanofiber Templating. Macromolecular Rapid Communications, 2022, 43, e2100891.	2.0	11
985	Degradable Silkâ€Based Subcutaneous Oxygen Sensors. Advanced Functional Materials, 2022, 32, .	7.8	11
986	Studies on monooxygenases and dioxygenases in soil macroinvertebrates and bacterial isolates from the gut of the terrestrial isopod, Oniscus asellus L.. Comparative Biochemistry and Physiology Part B: Comparative Biochemistry, 1978, 60, 47-50.	0.2	10
987	Denitrification of high nitrate loads â€" Efficiencies of alternative carbon sources. International Biodeterioration, 1987, 23, 233-248.	0.2	10
988	Intelligent Materials Properties of DNA and Strategies for Its Incorporation into Electroactive Polymeric Thin Film Systems. Journal of Intelligent Material Systems and Structures, 1994, 5, 447-454.	1.4	10
989	The affliction of Job: Poisoned!. Journal of the American Academy of Dermatology, 1999, 40, 126-128.	0.6	10
990	Multifunctional spider silk polymers for gene delivery to human mesenchymal stem cells. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2015, 103, 1390-1401.	1.6	10

#	ARTICLE	IF	CITATIONS
991	Synergistic effect of exogeneous and endogeneous electrostimulation on osteogenic differentiation of human mesenchymal stem cells seeded on silk scaffolds. Journal of Orthopaedic Research, 2016, 34, 581-590.	1.2	10
992	Effect of Terminal Modification on the Molecular Assembly and Mechanical Properties of Proteinâ€Based Block Copolymers. Macromolecular Bioscience, 2017, 17, 1700095.	2.1	10
993	Biâ€layer silk fibroin grafts support functional tissue regeneration in a porcine model of onlay esophagoplasty. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, e894-e904.	1.3	10
994	Silk Hydrogel Microfibers for Biomimetic Fibrous Material Design. Macromolecular Materials and Engineering, 2019, 304, 1900045.	1.7	10
995	Expanding Canonical Spider Silk Properties through a DNA Combinatorial Approach. Materials, 2020, 13, 3596.	1.3	10
996	Aligned Silk Sponge Fabrication and Perfusion Culture for Scalable Proximal Tubule Tissue Engineering. ACS Applied Materials & Interfaces, 2021, 13, 10768-10777.	4.0	10
997	Miniaturized 3D bone marrow tissue model to assess response to Thrombopoietin-receptor agonists in patients. ELife, 2021, 10, .	2.8	10
998	Bioengineered 3D Tissue Model of Intestine Epithelium with Oxygen Gradients to Sustain Human Gut Microbiome. Advanced Healthcare Materials, 2022, 11, .	3.9	10
999	Intelligent Systems Based on Ordered Arrays of Biological Molecules Using the LB Technique. Journal of Intelligent Material Systems and Structures, 1994, 5, 305-310.	1.4	9
1000	Non-invasive optical characterization of biomaterial mineralization. Biomaterials, 2008, 29, 2359-2369.	5.7	9
1001	Interface Control of Semicrystalline Biopolymer Films through Thermal Reflow. Biomacromolecules, 2013, 14, 2189-2195.	2.6	9
1002	Automatic neuron segmentation and neural network analysis method for phase contrast microscopy images. Biomedical Optics Express, 2015, 6, 4395.	1.5	9
1003	Binding Quantum Dots to Silk Biomaterials for Optical Sensing. Journal of Sensors, 2015, 2015, 1-10.	0.6	9
1004	Direct Transfer Printing of Water Hydrolyzable Metals onto Silk Fibroin Substrates through Thermalâ€Reflowâ€Based Adhesion. Advanced Materials Interfaces, 2016, 3, 1600094.	1.9	9
1005	Electrochemically Directed Assembly of Designer Coiled-Coil Telechelic Proteins. ACS Biomaterials Science and Engineering, 2017, 3, 3195-3206.	2.6	9
1006	Three-Dimensional Tissue Models for Studying Ex Vivo Megakaryocytopoiesis and Platelet Production. Methods in Molecular Biology, 2018, 1812, 177-193.	0.4	9
1007	Growth factor-free salt-leached silk scaffolds for differentiating endothelial cells. Journal of Materials Chemistry B, 2018, 6, 4308-4313.	2.9	9
1008	Assembly and Application of a Threeâ€Dimensional Human Corneal Tissue Model. Current Protocols in Toxicology / Editorial Board, Mahin D Maines (editor-in-chief) [et Al], 2019, 81, e84.	1.1	9

#	ARTICLE	IF	CITATIONS
1009	Ex vivo pregnantâ€like tissue model to assess injectable hydrogel for preterm birth prevention. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2020, 108, 468-474.	1.6	9
1010	Repetitive Mild Closed Head Injury in Adolescent Mice Is Associated with Impaired Proteostasis, Neuroinflammation, and Tauopathy. Journal of Neuroscience, 2022, 42, 2418-2432.	1.7	9
1011	Compositional consistency of a heteropolysaccharide-7 produced by Beijerinckia indica. Biotechnology Letters, 1997, 19, 803-807.	1.1	8
1012	Damage control. Nature Materials, 2012, 11, 273-274.	13.3	8
1013	Silks: Properties and uses of natural and designed variants. Biopolymers, 2012, 97, 319-321.	1.2	8
1014	Quantifying cellular alignment on anisotropic biomaterial platforms. Journal of Biomedical Materials Research - Part A, 2014, 102, 420-428.	2.1	8
1015	Scaffold structure and fabrication method affect proinflammatory milieu in threeâ€dimensionalâ€cultured chondrocytes. Journal of Biomedical Materials Research - Part A, 2015, 103, 534-544.	2.1	8
1016	Assessment of Multipotent Mesenchymal Stromal Cells in Bone Marrow Aspirate From Human Calcaneus. Journal of Foot and Ankle Surgery, 2017, 56, 42-46.	0.5	8
1017	Quantifying the efficiency of Hydroxyapatite Mineralising Peptides. Scientific Reports, 2017, 7, 7681.	1.6	8
1018	Biopolymeric Nanoparticle Synthesis in Ionic Liquids. , 2018, , .		8
1019	Tunable Interfacial Properties in Silk Ionomer Microcapsules with Tailored Multilayer Interactions. Macromolecular Bioscience, 2019, 19, e1800176.	2.1	8
1020	Hyperosmolar Potassium Inhibits Myofibroblast Conversion and Reduces Scar Tissue Formation. ACS Biomaterials Science and Engineering, 2019, 5, 5327-5336.	2.6	8
1021	Silk Reservoir Implants for Sustained Drug Delivery. ACS Applied Bio Materials, 2021, 4, 869-880.	2.3	8
1022	Sugar Functionalization of Silks with Pathwayâ€Controlled Substitution and Properties. Advanced Biology, 2021, 5, 2100388.	1.4	8
1023	Fragile-Tough Mechanical Reversion of Silk Materials via Tuning Supramolecular Assembly. ACS Biomaterials Science and Engineering, 2021, 7, 2337-2345.	2.6	8
1024	Blastocyst-Inspired Hydrogels to Maintain Undifferentiation of Mouse Embryonic Stem Cells. ACS Nano, 2021, 15, 14162-14173.	7.3	8
1025	Silk Nanocarrier Size Optimization for Enhanced Tumor Cell Penetration and Cytotoxicity In Vitro. ACS Biomaterials Science and Engineering, 2022, 8, 140-150.	2.6	8
1026	Production of zoogloea gum by Zoogloea ramigerawith glucose analogs. Biotechnology Letters, 1997, 19, 799-802.	1.1	7

#	ARTICLE	IF	CITATIONS
1027	Horseradish Peroxidase Catalyzed Polymerization of Tyrosine Derivatives for Nanoscale Surface Patterning. Journal of Macromolecular Science - Pure and Applied Chemistry, 2004, 41, 1437-1445.	1.2	7
1028	Rapid nano impact printing of silk biopolymer thin films. Journal of Micromechanics and Microengineering, 2011, 21, 115014.	1.5	7
1029	Towards the fabrication of biohybrid silk fibroin materials: entrapment and preservation of chloroplast organelles in silk fibroin films. RSC Advances, 2016, 6, 72366-72370.	1.7	7
1030	Developing a selfâ€organized tubulogenesis model of human renal proximal tubular epithelial cells in vitro. Journal of Biomedical Materials Research - Part A, 2020, 108, 795-804.	2.1	7
1031	Biotechnology and Biomaterial-Based Therapeutic Strategies for Age-Related Macular Degeneration. Part I: Biomaterials-Based Drug Delivery Devices. Frontiers in Bioengineering and Biotechnology, 2020, 8, 549089.	2.0	7
1032	A 3D Tissue Model of Traumatic Brain Injury with Excitotoxicity That Is Inhibited by Chronic Exposure to Gabapentinoids. Biomolecules, 2020, 10, 1196.	1.8	7
1033	Integrated functional neuronal network analysis of 3D silk-collagen scaffold-based mouse cortical culture. STAR Protocols, 2021, 2, 100292.	0.5	7
1034	Toward Studying Cognition in a Dish. Trends in Cognitive Sciences, 2021, 25, 294-304.	4.0	7
1035	Optical Properties oF Polyaniline Synthesized by Enzyme-Catalyzed Reactions in Organic Solvents. , 1994, , 531-537.		7
1036	3D Printing of Monolithic Proteinaceous Cantilevers Using Regenerated Silk Fibroin. Molecules, 2022, 27, 2148.	1.7	7
1037	Anisotropic silk nanofiber layers as regulators of angiogenesis for optimized bone regeneration. Materials Today Bio, 2022, 15, 100283.	2.6	7
1038	Enzyme Catalyzed Polymerization of Phenol and Aniline Derivatives on a Langmuir Trough to Form Ordered 2-D Polymer Films. Journal of Intelligent Material Systems and Structures, 1994, 5, 631-634.	1.4	6
1039	Differentiation of Bone Marrow Stem Cells on Inkjet Printed Silk Lines. Materials Research Society Symposia Proceedings, 2006, 950, 1.	0.1	6
1040	SnapShot: Silk Biomaterials. Biomaterials, 2010, 31, 6119-6120.	5.7	6
1041	Structural details of the Polyelectrolytic Exopolysaccharide (APE), the stabilizing component of the Acinetobacter venetianus RAG-1 emulsan complex. Carbohydrate Polymers, 2012, 88, 257-262.	5.1	6
1042	Influence of Solution Parameters on Phase Diagram of Recombinant Spider Silkâ€Like Block Copolymers. Macromolecular Chemistry and Physics, 2014, 215, 1230-1238.	1.1	6
1043	Electroresponsive Aqueous Silk Protein As â€œSmartâ€•Mechanical Damping Fluid. ACS Applied Materials & Interfaces, 2014, 6, 6212-6216.	4.0	6
1044	Supracolloidal Assemblies as Sacrificial Templates for Porous Silk-Based Biomaterials. International Journal of Molecular Sciences, 2015, 16, 20511-20522.	1.8	6

#	ARTICLE	IF	CITATIONS
1045	The Effects of Mycoplasma Contamination upon the Ability to Form Bioengineered 3D Kidney Cysts. PLoS ONE, 2015, 10, e0120097.	1.1	6
1046	Increased Osteoid Formation in BMP-2â€“Loaded Silk-Based Screws. Plastic and Reconstructive Surgery, 2016, 137, 808e-817e.	0.7	6
1047	Formation of multimers of bacterial collagens through introduction of specific sites for oxidative crosslinking. Journal of Biomedical Materials Research - Part A, 2016, 104, 2369-2376.	2.1	6
1048	Non-invasive Assessments of Adipose Tissue Metabolism In Vitro. Annals of Biomedical Engineering, 2016, 44, 725-732.	1.3	6
1049	Silk-ionomer and silk-tropoelastin hydrogels as charged three-dimensional culture platforms for the regulation of hMSC response. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 2549-2564.	1.3	6
1050	De Novo Synthesis and Assembly of Flexible and Biocompatible Physical Sensing Platforms. Advanced Materials Technologies, 2019, 4, 1800141.	3.0	6
1051	Melatonin-induced osteogenesis with methanol-annealed silk materials. Journal of Bioactive and Compatible Polymers, 2019, 34, 291-305.	0.8	6
1052	Interferon-Gamma Stimulated Murine Macrophages In Vitro: Impact of Ionic Composition and Osmolarity and Therapeutic Implications. Bioelectricity, 2020, 2, 48-58.	0.6	6
1053	Fast and reversible crosslinking of a silk elastin-like polymer. Acta Biomaterialia, 2022, 141, 14-23.	4.1	6
1054	Radially Aligned Porous Silk Fibroin Scaffolds as Functional Templates for Engineering Human Biomimetic Hepatic Lobules. ACS Applied Materials & Interfaces, 2022, 14, 201-213.	4.0	6
1055	Silk Hydrogel-Mediated Delivery of Bone Morphogenetic Protein 7 Directly to Subcutaneous White Adipose Tissue Increases Browning and Energy Expenditure. Frontiers in Bioengineering and Biotechnology, 2022, 10, .	2.0	6
1056	Liquid crystallinity of levan/water/starch solutions. Journal of Polymers and the Environment, 1994, 2, 195-199.	0.8	5
1057	Construction of a chimeric gene cluster for the biosynthesis of apoemulsan with altered molecular weight. Applied Microbiology and Biotechnology, 2008, 78, 677-683.	1.7	5
1058	Label free monitoring of megakaryocytic development and proplatelet formation in vitro. Biomedical Optics Express, 2017, 8, 4742.	1.5	5
1059	Recursive Directional Ligation Approach for Cloning Recombinant Spider Silks. Methods in Molecular Biology, 2018, 1777, 181-192.	0.4	5
1060	Preclinical assessment of resorbable silk splints for the treatment of pediatric tracheomalacia. Laryngoscope, 2019, 129, 2189-2194.	1.1	5
1061	Functional Effects of a Neuromelanin Analogue on Dopaminergic Neurons in 3D Cell Culture. ACS Biomaterials Science and Engineering, 2019, 5, 308-317.	2.6	5
1062	Silk-based encapsulation materials to enhance pancreatic cell functions. , 2020, , 329-337.		5

#	ARTICLE	IF	CITATIONS
1063	Engineering immunity for next generation HIV vaccines: The intersection of bioengineering and immunology. Vaccine, 2020, 38, 187-193.	1.7	5
1064	Degradation of ammonium nitrate propellants in aqueous and soil systems. Environmental Science & Technology, 1984, 18, 694-699.	4.6	4
1065	Fast Scanning Calorimetry of Silk Fibroin Protein: Sample Mass and Specific Heat Capacity Determination. , 2016, , 187-203.		4
1066	Metal Oxide Nanomaterials with Nitrogenâ€Doped Grapheneâ€Silk Nanofiber Complexes as Templates. Particle and Particle Systems Characterization, 2016, 33, 286-292.	1.2	4
1067	Biodegradable silk catheters for the delivery of therapeutics across anatomical repair sites. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2019, 107, 501-510.	1.6	4
1068	Assessment of Enrichment of Human Mesenchymal Stem Cells Based on Plasma and Mitochondrial Membrane Potentials. Bioelectricity, 2020, 2, 21-32.	0.6	4
1069	Enhancing sustained-release local therapy: Single versus dual chemotherapy for the treatment of neuroblastoma. Surgery, 2020, 167, 969-977.	1.0	4
1070	Short Silk Nanoribbons Decorated by Au Nanoparticles as Substrates for Sensitive and Uniform Surface-Enhanced Raman Spectroscopy Detection. ACS Applied Nano Materials, 2021, 4, 6376-6385.	2.4	4
1071	Axonal growth on surfaces with periodic geometrical patterns. PLoS ONE, 2021, 16, e0257659.	1.1	4
1072	Study the lipidoid nanoparticle mediated genome editing protein delivery using 3D intestinal tissue model. Bioactive Materials, 2021, 6, 3671-3677.	8.6	4
1073	Charge-Modulated Accessibility of Tyrosine Residues for Silk-Elastin Copolymer Cross-Linking. Biomacromolecules, 2022, 23, 760-765.	2.6	4
1074	Screening neuroprotective compounds in herpes-induced Alzheimer's disease cell and 3D tissue models. Free Radical Biology and Medicine, 2022, 186, 76-92.	1.3	4
1075	Comparison of Single and Double Stranded Dna Binding to Polypyrrole.. Materials Research Society Symposia Proceedings, 1992, 292, 135.	0.1	3
1076	<title>Molecular self assembly on optical fiber-based fluorescence sensor</title>. , 1994, , .		3
1077	A combined chemical-enzymatic method to remove selected aromatics from aqueous streams. Applied Biochemistry and Biotechnology, 1995, 51-52, 649-660.	1.4	3
1078	Incorporation of fluorinated fatty acids into emulsan by Acinetobacter calcoaceticus RAG-1. Biochemical Engineering Journal, 2003, 16, 175-181.	1.8	3
1079	Nanomechanical and Microstructural Properties of <i>Bombyx mori</i> Silk Films. Materials Research Society Symposia Proceedings, 2004, 841, R2.2.1/Y2.2.1.	0.1	3
1080	Ligament Tissue Engineering. , 2006, , 191-211.		3

#	ARTICLE	IF	CITATIONS
1081	Emulsan-Alginate Microspheres as a New Vehicle for Protein Delivery. ACS Symposium Series, 2006, , 14-29.	0.5	3
1082	A statistical algorithm for assessing cellular alignment. Journal of Biomedical Materials Research - Part A, 2013, 101A, 884-891.	2.1	3
1083	Semi-automatic quantification of neurite fasciculation in high-density neurite images by the neurite directional distribution analysis (NDDA). Journal of Neuroscience Methods, 2014, 228, 100-109.	1.3	3
1084	Reply. Annals of Neurology, 2014, 75, 618-618.	2.8	3
1085	Solvent-Free Strategy To Encapsulate Degradable, Implantable Metals in Silk Fibroin. ACS Applied Bio Materials, 2018, 1, 1677-1686.	2.3	3
1086	Silk Protein Bioresorbable, Drugâ€Eluting Ear Tubes: Proofâ€ofâ€Concept. Advanced Healthcare Materials, 2019, 8, e1801409.	3.9	3
1087	Soft Tissue Engineering. , 2020, , 1399-1414.		3
1088	Oriented fluorescent streptavidin conjugated phycoerythrin protein on biotinylated lipid LB monolayer films. , 1991, , 160-164.		3
1089	A pseudo threefold helical structure found in silk Langmuir-Blodgett films by electron diffraction. Proceedings Annual Meeting Electron Microscopy Society of America, 1993, 51, 1216-1217.	0.0	3
1090	Long-term phenotypic characterization of human bone marrow and adipose tissue derived mesenchymal stromal cells. Stem Cell Discovery, 2013, 03, 99-116.	0.5	3
1091	MSCâ€Laden Composite Hydrogels for Inflammation and Angiogenic Regulation for Skin Flap Repair. Advanced Therapeutics, 2022, 5, .	1.6	3
1092	Processing Natural and Reconstituted Silk Solutions Under Equilibrium and Non-Equilibrium Conditions. Materials Research Society Symposia Proceedings, 1992, 292, 211.	0.1	2
1093	Biotinylated Thiophene Copolymer â€" A Novel Biomaterial for LB Film Assembly. Materials Research Society Symposia Proceedings, 1993, 330, 185.	0.1	2
1094	Bioprocessing of silk proteins-controlling assembly. , 2006, , 189-208.		2
1095	Biocompatible Silk Fibroin Optical Fibers. , 2015, , .		2
1096	A simple model of multiphoton micromachining in silk hydrogels. Applied Physics Letters, 2016, 108, 241903.	1.5	2
1097	Nondestructive, Label-Free Characterization of Mechanical Microheterogeneity in Biomimetic Materials. ACS Biomaterials Science and Engineering, 2018, 4, 3259-3267.	2.6	2
1098	Microporous Drugâ€Eluting Large Silk Particles Through Cryoâ€Granulation. Advanced Engineering Materials, 2019, 21, 1801242.	1.6	2

#	ARTICLE	IF	CITATIONS
1099	Cervical Augmentation with an Injectable Silk-Based Gel: Biocompatibility in a Rat Model of Pregnancy. Reproductive Sciences, 2020, 27, 1215-1221.	1.1	2
1100	On the effect of neuronal spatial subsampling in smallâ€world networks. European Journal of Neuroscience, 2021, 53, 485-498.	1.2	2
1101	Learning and synaptic plasticity in 3D bioengineered neural tissues. Neuroscience Letters, 2021, 750, 135799.	1.0	2
1102	Engineering Peptide-based Carriers for Drug and Gene Delivery. , 2014, , 667-689.		2
1103	The Enzymatic Mediated Polymerization of Phenol and Aniline Derivatives on a Langmuir Trough. Materials Research Society Symposia Proceedings, 1992, 292, 147.	0.1	1
1104	Formation of Silk Monolayers. Materials Research Society Symposia Proceedings, 1992, 292, 181.	0.1	1
1105	<title>Integrating biotinylated polyalkylthiophene thin films with biological macromolecules: biosensing organophosphorus pesticides and metal ions with surface immobilized alkaline phosphatase utilizing chemiluminescence measurements</title>. , 1995, , .		1
1106	Engineered Films of Bombyx mori Silk with Poly(ethylene oxide). Materials Research Society Symposia Proceedings, 2002, 735, 11111.	0.1	1
1107	Human Bone Marrow Stem Cell Responses on Electrospun Bombyx mori Silk Fibroin. Materials Research Society Symposia Proceedings, 2002, 735, 11121.	0.1	1
1108	Nanomechanical and Microstructural Properties of Bombyx mori Silk Films. Materials Research Society Symposia Proceedings, 2004, 844, 1.	0.1	1
1109	Mechanical Determinants of Tissue Development. , 2008, , 480-497.		1
1110	Structure and elasticity mechanism of full length resilin proteins. , 2010, , .		1
1111	Mechanical Determinants of Tissue Development. , 2011, , 463-477.		1
1112	Nanoimprinting: Proteinâ€Protein Nanoimprinting of Silk Fibroin Films (Adv. Mater. 17/2013). Advanced Materials, 2013, 25, 2378-2378.	11.1	1
1113	High Resolution Mapping of Cytoskeletal Dynamics in Neurons via Combined Atomic Force Microscopy and Fluorescence Microscopy. Materials Research Society Symposia Proceedings, 2013, 1527, 1.	0.1	1
1114	Correlating phosphoproteomic signaling with castration resistant prostate cancer survival through regression analysis. Molecular BioSystems, 2014, 10, 605-612.	2.9	1
1115	Virtual Issue: Methods and Protocols Series in Materials Scienceâ€"2018. Chemistry of Materials, 2018, 30, 1443-1445.	3.2	1
1116	Replicating and identifying large cell neuroblastoma using high-dose intra-tumoral chemotherapy and automated digital analysis. Journal of Pediatric Surgery, 2019, 54, 2595-2599.	0.8	1

#	ARTICLE	IF	CITATIONS
1117	Silk-Based Therapeutics Targeting Pseudomonas aeruginosa. Journal of Functional Biomaterials, 2019, 10, 41.	1.8	1
1118	Silk nanocoatings of mammalian cells for cytoprotection against mechanical stress. MRS Bulletin, 2021, 46, 795-806.	1.7	1
1119	Silk: A Biocompatible and Biodegradable Biopolymer for Therapeutic Adenosine Delivery. , 2013, , 599-620.		1
1120	Cartilage-like Tissue Engineering Using Silk Scaffolds and Mesenchymal Stem Cells. Tissue Engineering, 2006, .	4.9	1
1121	Induction of Irritation and Inflammation in a 3D Innervated Tissue Model of the Human Cornea. ACS Biomaterials Science and Engineering, 2020, 6, 6886-6895.	2.6	1
1122	Biotinylated Polythiophene Copolymer â€“ a Novel Electroactive Biomaterial Utilizing the Biotin-Streptavidin Interaction. Materials Research Society Symposia Proceedings, 1992, 292, 141.	0.1	0
1123	Multilayer Enzyme Assembly for the Development of a Novel Fiber Optic Biosensor. Materials Research Society Symposia Proceedings, 1995, 414, 125.	0.1	0
1124	<title>Biochemically designed polymers as self-organized materials</title>. , 1997, 3040, 200.		0
1125	<title>Bioreceptor-conducting polymer multilayer assemblies for biosensing</title>. , 1998, , .		0
1126	The Effect of Hydrophobic Patterning on Micromolding of Aqueous-Derived Silk Structures. Materials Research Society Symposia Proceedings, 2007, 1052, 1.	0.1	0
1127	Sequential Biochemical and Mechanical Stimulation in the Development of Tissue-Engineered Ligaments. Tissue Engineering - Part A, 0, , 110306231138043.	1.6	0
1128	Silk Fibroin Biosensor Based on Imprinted Periodic Nanostructures. , 2009, , .		0
1129	Sustained-release silk biomaterials for drug delivery and tissue engineering scaffolds. , 2009, , .		0
1130	Bioengineering a complex 3D human breast tissue culture system on silk scaffolds. , 2010, , .		0
1131	Hybrid Photonic-Plasmonic Silk Protein as Refractive Index Sensor. , 2012, , .		0
1132	Non-invasive Optical Detection of Cell Differentiation Status Using Endogenous Sources of Optical Contrast. , 2012, , .		0
1133	Depolarization alters phenotype, maintains plasticity of pre-differentiated mesenchymal stem cells. Tissue Engineering - Part A, 2013, , 130424210024009.	1.6	0
1134	Biodegradable Films and Foam of Poly(3-Hydroxybutyrate-co-3-hydroxyvalerate) Blended with Silk Fibroin. ACS Symposium Series, 2013, , 251-279.	0.5	0

#	ARTICLE	IF	CITATIONS
1135	Cationic Polymers as Gene-Activated Matrices for Biomedical Applications. RSC Polymer Chemistry Series, 2014, , 438-462.	0.1	0
1136	3D Laser Ablation of Biocompatible Silk Fibroin Hydrogels for Biomedical Applications. , 2015, , .		0
1137	Virtual Issue: Methods and Protocols Series in Materials Scienceâ€”2018. ACS Biomaterials Science and Engineering, 2018, 4, 748-750.	2.6	0
1138	Feasibility of low field MRI and proteomics for the analysis of Tissue Engineered bone. Biomedical Physics and Engineering Express, 2019, 5, 025037.	0.6	0
1139	Matrix Deformation with Ectopic Cells Induced by Rotational Motion in Bioengineered Neural Tissues. Annals of Biomedical Engineering, 2020, 48, 2192-2203.	1.3	0
1140	On the prediction of neuronal microscale topology descriptors based on mesoscale recordings. European Journal of Neuroscience, 2021, 54, 6147-6167.	1.2	0
1141	Effect of Scaffold Design on Bone Morphologyin Vitro. Tissue Engineering, 2006, .	4.9	0
1142	Non-invasive characterization of mineralized silk films using light scattering. , 2008, , .		0
1143	Biological degradation of explosives and chemical agents. , 1992, , 245-261.		0
1144	Enzyme-Catalyzed Polymerization in Microstructured Fluid Media: The Synthesis and Characterization of Novel Biomolecular Materials. , 1994, , 613-620.		0
1145	Advanced Materials from Enzymatic Polymerization of Substituted Phenols in Ordered Templates. , 1995, , 667-675.		0
1146	Three-Dimensional Quantification of Fiber-Like Structures in Biological Tissues. , 2017, , .		0
1147	Changes in Macrophage Metabolism in Response to Pro-Inflammatory and Anti-Inflammatory Stimuli. , 2019, , .		0
1148	Silkâ€elastinâ€likeâ€protein/grapheneâ€oxide Composites for Dynamic Electronic Biomaterials. Macromolecular Bioscience, 0, , 2200122.	2.1	0