David Kaplan

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

896 papers	77,885 citations	137 h-index	251 g-index
1,077 ext. papers	88,002 ext. citations	9.1 avg, IF	8.41 L-index

#	Paper	IF	Citations
896	Porosity of 3D biomaterial scaffolds and osteogenesis. *Biomaterials*, **2005**, 26, 5474-91	15.6	4445
895	Silk-based biomaterials. *Biomaterials*, **2003**, 24, 401-16	15.6	2621
894	Silk as a Biomaterial. *Progress in Polymer Science*, **2007**, 32, 991-1007	29.6	1842
893	Materials fabrication from Bombyx mori silk fibroin. *Nature Protocols*, **2011**, 6, 1612-31	18.8	1752
892	Dissolvable films of silk fibroin for ultrathin conformal bio-integrated electronics. *Nature Materials*, **2010**, 9, 511-7	27	1239
891	Mechanism of silk processing in insects and spiders. *Nature*, **2003**, 424, 1057-61	50.4	1064
890	New opportunities for an ancient material. *Science*, **2010**, 329, 528-31	33.3	1016
889	Electrospun silk-BMP-2 scaffolds for bone tissue engineering. *Biomaterials*, **2006**, 27, 3115-24	15.6	980
888	A physically transient form of silicon electronics. *Science*, **2012**, 337, 1640-4	33.3	862
887	Determining Beta-Sheet Crystallinity in Fibrous Proteins by Thermal Analysis and Infrared Spectroscopy. *Macromolecules*, **2006**, 39, 6161-6170	5.5	829
886	Three-dimensional aqueous-derived biomaterial scaffolds from silk fibroin. *Biomaterials*, **2005**, 26, 2775-85	15.6	793
885	Stem cell-based tissue engineering with silk biomaterials. *Biomaterials*, **2006**, 27, 6064-82	15.6	785
884	Porous 3-D scaffolds from regenerated silk fibroin. *Biomacromolecules*, **2004**, 5, 718-26	6.9	730
883	Silk matrix for tissue engineered anterior cruciate ligaments. *Biomaterials*, **2002**, 23, 4131-41	15.6	726
882	Functionalized silk-based biomaterials for bone formation. *Journal of Biomedical Materials Research Part B*, **2001**, 54, 139-48		662
881	Graphene-based wireless bacteria detection on tooth enamel. *Nature Communications*, **2012**, 3, 763	17.4	657
880	Vascularization strategies for tissue engineering. *Tissue Engineering - Part B: Reviews*, **2009**, 15, 353-70	7.9	642

879	The inflammatory responses to silk films in vitro and in vivo. *Biomaterials*, **2005**, 26, 147-55	15.6	636
878	Structure and properties of silk hydrogels. *Biomacromolecules*, **2004**, 5, 786-92	6.9	632
877	Electrospinning Bombyx mori silk with poly(ethylene oxide). *Biomacromolecules*, **2002**, 3, 1233-9	6.9	623
876	In vitro degradation of silk fibroin. *Biomaterials*, **2005**, 26, 3385-93	15.6	577
875	In vivo degradation of three-dimensional silk fibroin scaffolds. *Biomaterials*, **2008**, 29, 3415-28	15.6	573
874	Human bone marrow stromal cell responses on electrospun silk fibroin mats. *Biomaterials*, **2004**, 25, 1039-47	15.6	537
873	Cell differentiation by mechanical stress. *FASEB Journal*, **2002**, 16, 270-2	0.9	506
872	Sonication-induced gelation of silk fibroin for cell encapsulation. *Biomaterials*, **2008**, 29, 1054-64	15.6	492
871	Water-Stable Silk Films with Reduced βSheet Content. *Advanced Functional Materials*, **2005**, 15, 1241-1247	15.6	487
870	Water-insoluble silk films with silk I structure. *Acta Biomaterialia*, **2010**, 6, 1380-7	10.8	450
869	Macrophage responses to silk. *Biomaterials*, **2003**, 24, 3079-85	15.6	445
868	Regulation of silk material structure by temperature-controlled water vapor annealing. *Biomacromolecules*, **2011**, 12, 1686-96	6.9	434
867	Mechanisms of silk fibroin sol-gel transitions. *Journal of Physical Chemistry B*, **2006**, 110, 21630-8	3.4	396
866	Native-sized recombinant spider silk protein produced in metabolically engineered Escherichia coli results in a strong fiber. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 14059-63	11.5	392
865	Silk materials--a road to sustainable high technology. *Advanced Materials*, **2012**, 24, 2824-37	24	380
864	In vitro cartilage tissue engineering with 3D porous aqueous-derived silk scaffolds and mesenchymal stem cells. *Biomaterials*, **2005**, 26, 7082-94	15.6	376
863	Silk implants for the healing of critical size bone defects. *Bone*, **2005**, 37, 688-98	4.7	371
862	Controlling silk fibroin particle features for drug delivery. *Biomaterials*, **2010**, 31, 4583-91	15.6	356

861	Cartilage tissue engineering with silk scaffolds and human articular chondrocytes. *Biomaterials*, **2006**, 27, 4434-42	15.6	356
860	Electrospun silk biomaterial scaffolds for regenerative medicine. *Advanced Drug Delivery Reviews*, **2009**, 61, 988-1006	18.5	335
859	Silk film biomaterials for cornea tissue engineering. *Biomaterials*, **2009**, 30, 1299-308	15.6	329
858	Silk nanospheres and microspheres from silk/pva blend films for drug delivery. *Biomaterials*, **2010**, 31, 1025-35	15.6	321
857	Role of membrane potential in the regulation of cell proliferation and differentiation. *Stem Cell Reviews and Reports*, **2009**, 5, 231-46	6.4	315
856	Biomedical applications of chemically-modified silk fibroin. *Journal of Materials Chemistry*, **2009**, 19, 6443-6450		314
855	Nanofibrils in nature and materials engineering. *Nature Reviews Materials*, **2018**, 3,	73.3	304
854	Silk fibroin as an organic polymer for controlled drug delivery. *Journal of Controlled Release*, **2006**, 111, 219-27	11.7	293
853	High-strength silk protein scaffolds for bone repair. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 7699-704	11.5	288
852	Silk-based delivery systems of bioactive molecules. *Advanced Drug Delivery Reviews*, **2010**, 62, 1497-508	18.5	282
851	Engineering bone-like tissue in vitro using human bone marrow stem cells and silk scaffolds. *Journal of Biomedical Materials Research Part B*, **2004**, 71, 25-34		277
850	Agarose-based biomaterials for tissue engineering. *Carbohydrate Polymers*, **2018**, 187, 66-84	10.3	276
849	Human bone marrow stromal cell and ligament fibroblast responses on RGD-modified silk fibers. *Journal of Biomedical Materials Research Part B*, **2003**, 67, 559-70		274
848	Vortex-induced injectable silk fibroin hydrogels. *Biophysical Journal*, **2009**, 97, 2044-50	2.9	271
847	In vivo bioresponses to silk proteins. *Biomaterials*, **2015**, 71, 145-157	15.6	269
846	Silk-based conformal, adhesive, edible food sensors. *Advanced Materials*, **2012**, 24, 1067-72	24	266
845	Highly tunable elastomeric silk biomaterials. *Advanced Functional Materials*, **2014**, 24, 4615-4624	15.6	265
844	Mechanical Properties of Electrospun Silk Fibers. *Macromolecules*, **2004**, 37, 6856-6864	5.5	263

843	Biocompatible Silk Printed Optical Waveguides. *Advanced Materials*, **2009**, 21, 2411-2415	24	260
842	Bone morphogenetic protein-2 decorated silk fibroin films induce osteogenic differentiation of human bone marrow stromal cells. *Journal of Biomedical Materials Research Part B*, **2004**, 71, 528-37		258
841	Silk microspheres for encapsulation and controlled release. *Journal of Controlled Release*, **2007**, 117, 360-70	11.7	251
840	Natural protective glue protein, sericin bioengineered by silkworms: Potential for biomedical and biotechnological applications. *Progress in Polymer Science*, **2008**, 33, 998-1012	29.6	250
839	Bioactive silk protein biomaterial systems for optical devices. *Biomacromolecules*, **2008**, 9, 1214-20	6.9	248
838	Bone tissue engineering with premineralized silk scaffolds. *Bone*, **2008**, 42, 1226-34	4.7	245
837	Spider silks and their applications. *Trends in Biotechnology*, **2008**, 26, 244-51	15.1	238
836	Mechanical and thermal properties of dragline silk from the spider Nephila clavipes. *Polymers for Advanced Technologies*, **1994**, 5, 401-410	3.2	234
835	Tissue engineering and developmental biology: going biomimetic. *Tissue Engineering*, **2006**, 12, 3265-83		233
834	Construction, cloning, and expression of synthetic genes encoding spider dragline silk. *Biochemistry* , **1995**, 34, 10879-85	3.2	232
833	Effect of processing on silk-based biomaterials: reproducibility and biocompatibility. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2011**, 99, 89-101	3.5	227
832	Silk fibroin microtubes for blood vessel engineering. *Biomaterials*, **2007**, 28, 5271-9	15.6	226
831	Conformational transitions in model silk peptides. *Biophysical Journal*, **2000**, 78, 2690-701	2.9	226
830	Silk fibroin/hydroxyapatite composites for bone tissue engineering. *Biotechnology Advances*, **2018**, 36, 68-91	17.8	224
829	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, 17385-9	11.5	223
828	Advanced tools for tissue engineering: scaffolds, bioreactors, and signaling. *Tissue Engineering*, **2006**, 12, 3285-305		223
827	Role of adult mesenchymal stem cells in bone tissue engineering applications: current status and future prospects. *Tissue Engineering*, **2005**, 11, 787-802		222
826	Silk-based electrospun tubular scaffolds for tissue-engineered vascular grafts. *Journal of Biomaterials Science, Polymer Edition*, **2008**, 19, 653-64	3.5	220

825	Mapping domain structures in silks from insects and spiders related to protein assembly. *Journal of Molecular Biology*, **2004**, 335, 27-40	6.5	220
824	Silk-based biomaterials for sustained drug delivery. *Journal of Controlled Release*, **2014**, 190, 381-97	11.7	219
823	Direct-Write Assembly of Microperiodic Silk Fibroin Scaffolds for Tissue Engineering Applications. *Advanced Functional Materials*, **2008**, 18, 1883-1889	15.6	219
822	Functionalized silk biomaterials for wound healing. *Advanced Healthcare Materials*, **2013**, 2, 206-17	10.1	216
821	. *Macromolecules*, **2008**, 41, 3939-3948	5.5	215
820	Degradation mechanism and control of silk fibroin. *Biomacromolecules*, **2011**, 12, 1080-6	6.9	214
819	The use of injectable sonication-induced silk hydrogel for VEGF(165) and BMP-2 delivery for elevation of the maxillary sinus floor. *Biomaterials*, **2011**, 32, 9415-24	15.6	213
818	Nucleation and growth of mineralized bone matrix on silk-hydroxyapatite composite scaffolds. *Biomaterials*, **2011**, 32, 2812-20	15.6	211
817	Silicon electronics on silk as a path to bioresorbable, implantable devices. *Applied Physics Letters*, **2009**, 95, 133701	3.4	211
816	Silk fibroin biomaterials for controlled release drug delivery. *Expert Opinion on Drug Delivery*, **2011**, 8, 797-811	8	208
815	Modification of silk fibroin using diazonium coupling chemistry and the effects on hMSC proliferation and differentiation. *Biomaterials*, **2008**, 29, 2829-38	15.6	207
814	Silkworm silk-based materials and devices generated using bio-nanotechnology. *Chemical Society Reviews*, **2018**, 47, 6486-6504	58.5	206
813	Bioengineered functional brain-like cortical tissue. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 13811-6	11.5	203
812	Biomaterial films of Bombyx mori silk fibroin with poly(ethylene oxide). *Biomacromolecules*, **2004**, 5, 711-7	6.9	202
811	Natural and Genetically Engineered Proteins for Tissue Engineering. *Progress in Polymer Science*, **2012**, 37, 1-17	29.6	199
810	Overview of Silk Fibroin Use in Wound Dressings. *Trends in Biotechnology*, **2018**, 36, 907-922	15.1	198
809	All-water-based electron-beam lithography using silk as a resist. *Nature Nanotechnology*, **2014**, 9, 306-10	28.7	195
808	Fabrication of Silk Microneedles for Controlled-Release Drug Delivery. *Advanced Functional Materials*, **2012**, 22, 330-335	15.6	195

807	Lyophilized silk fibroin hydrogels for the sustained local delivery of therapeutic monoclonal antibodies. *Biomaterials*, **2011**, 32, 2642-50	15.6	194
806	Mechanism of enzymatic degradation of beta-sheet crystals. *Biomaterials*, **2010**, 31, 2926-33	15.6	192
805	Silk based biomaterials to heal critical sized femur defects. *Bone*, **2006**, 39, 922-31	4.7	190
804	Design of biodegradable, implantable devices towards clinical translation. *Nature Reviews Materials* , **2020**, 5, 61-81	73.3	188
803	Evolution of Bioinks and Additive Manufacturing Technologies for 3D Bioprinting. *ACS Biomaterials Science and Engineering*, **2016**, 2, 1662-1678	5.5	187
802	Synthesis and characterization of polymers produced by horseradish peroxidase in dioxane. *Journal of Polymer Science Part A*, **1991**, 29, 1561-1574	2.5	186
801	Porous silk fibroin 3-D scaffolds for delivery of bone morphogenetic protein-2 in vitro and in vivo. *Journal of Biomedical Materials Research - Part A*, **2006**, 78, 324-34	5.4	185
800	Development of silk-based scaffolds for tissue engineering of bone from human adipose-derived stem cells. *Acta Biomaterialia*, **2012**, 8, 2483-92	10.8	184
799	Biopolymer nanofibrils: structure, modeling, preparation, and applications. *Progress in Polymer Science*, **2018**, 85, 1-56	29.6	183
798	Novel nanocomposites from spider silk-silica fusion (chimeric) proteins. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 9428-33	11.5	182
797	Role of pH and charge on silk protein assembly in insects and spiders. *Applied Physics A: Materials Science and Processing*, **2006**, 82, 223-233	2.6	182
796	Silk inverse opals. *Nature Photonics*, **2012**, 6, 818-823	33.9	181
795	Silk microfiber-reinforced silk hydrogel composites for functional cartilage tissue repair. *Acta Biomaterialia*, **2015**, 11, 27-36	10.8	176
794	Mandibular repair in rats with premineralized silk scaffolds and BMP-2-modified bMSCs. *Biomaterials*, **2009**, 30, 4522-32	15.6	176
793	Liquid crystallinity of natural silk secretions. *Nature*, **1991**, 349, 596-598	50.4	176
792	Enzyme-Catalyzed Ring-Opening Polymerization of Pentadecalactone *Macromolecules*, **1997**, 30, 2705-2711	5.5	174
791	Tunable self-assembly of genetically engineered silk--elastin-like protein polymers. *Biomacromolecules*, **2011**, 12, 3844-50	6.9	170
790	Membrane potential controls adipogenic and osteogenic differentiation of mesenchymal stem cells. *PLoS ONE*, **2008**, 3, e3737	3.7	169

789	The influence of elasticity and surface roughness on myogenic and osteogenic-differentiation of cells on silk-elastin biomaterials. *Biomaterials*, **2011**, 32, 8979-89	15.6	168
788	Enzymatically crosslinked silk-hyaluronic acid hydrogels. *Biomaterials*, **2017**, 131, 58-67	15.6	165
787	Design and function of biomimetic multilayer water purification membranes. *Science Advances*, **2017**, 3, e1601939	14.3	161
786	Nano- and Micropatterning of Optically Transparent, Mechanically Robust, Biocompatible Silk Fibroin Films. *Advanced Materials*, **2008**, 20, 3070-3072	24	161
785	Cartilage-like tissue engineering using silk scaffolds and mesenchymal stem cells. *Tissue Engineering*, **2006**, 12, 2729-38		159
784	3D in vitro modeling of the central nervous system. *Progress in Neurobiology*, **2015**, 125, 1-25	10.9	158
783	Polymorphic regenerated silk fibers assembled through bioinspired spinning. *Nature Communications*, **2017**, 8, 1387	17.4	158
782	Silk Fibroin Microfluidic Devices. *Advanced Materials*, **2007**, 19, 2847-2850	24	158
781	Bone and cartilage tissue constructs grown using human bone marrow stromal cells, silk scaffolds and rotating bioreactors. *Biomaterials*, **2006**, 27, 6138-49	15.6	157
780	Quantitative metabolic imaging using endogenous fluorescence to detect stem cell differentiation. *Scientific Reports*, **2013**, 3, 3432	4.9	156
779	pH-dependent anticancer drug release from silk nanoparticles. *Advanced Healthcare Materials*, **2013**, 2, 1606-11	10.1	156
778	Insoluble and flexible silk films containing glycerol. *Biomacromolecules*, **2010**, 11, 143-50	6.9	155
777	Bio-microfluidics: biomaterials and biomimetic designs. *Advanced Materials*, **2010**, 22, 249-60	24	154
776	Structure-function-property-design interplay in biopolymers: spider silk. *Acta Biomaterialia*, **2014**, 10, 1612-26	10.8	151
775	Silk self-assembly mechanisms and control from thermodynamics to kinetics. *Biomacromolecules*, **2012**, 13, 826-32	6.9	150
774	Silk fibroin/chondroitin sulfate/hyaluronic acid ternary scaffolds for dermal tissue reconstruction. *Acta Biomaterialia*, **2013**, 9, 6771-82	10.8	149
773	Helicoidal multi-lamellar features of RGD-functionalized silk biomaterials for corneal tissue engineering. *Biomaterials*, **2010**, 31, 8953-63	15.6	148
772	Carbonization of a stable β-sheet-rich silk protein into a pseudographitic pyroprotein. *Nature Communications*, **2015**, 6, 7145	17.4	147

771	Electrogelation for protein adhesives. *Advanced Materials*, **2010**, 22, 711-5	24	147
770	Electrical and mechanical stimulation of cardiac cells and tissue constructs. *Advanced Drug Delivery Reviews*, **2016**, 96, 135-55	18.5	145
769	Processing methods to control silk fibroin film biomaterial features. *Journal of Materials Science*, **2008**, 43, 6967-6985	4.3	144
768	Inkjet Printing of Regenerated Silk Fibroin: From Printable Forms to Printable Functions. *Advanced Materials*, **2015**, 27, 4273-9	24	143
767	Silk hydrogel for cartilage tissue engineering. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2010**, 95, 84-90	3.5	143
766	Effect of water on the thermal properties of silk fibroin. *Thermochimica Acta*, **2007**, 461, 137-144	2.9	142
765	Biomaterials from ultrasonication-induced silk fibroin-hyaluronic acid hydrogels. *Biomacromolecules* , **2010**, 11, 3178-88	6.9	141
764	3D Bioprinting of Self-Standing Silk-Based Bioink. *Advanced Healthcare Materials*, **2018**, 7, e1701026	10.1	140
763	Stabilization of enzymes in silk films. *Biomacromolecules*, **2009**, 10, 1032-42	6.9	140
762	Lipase-Catalyzed Ring-Opening Polymerization of Trimethylene Carbonate *Macromolecules*, **1997**, 30, 7735-7742	5.5	140
761	Silk based bioinks for soft tissue reconstruction using 3-dimensional (3D) printing with in vitro and in vivo assessments. *Biomaterials*, **2017**, 117, 105-115	15.6	139
760	Antibiotic-Releasing Silk Biomaterials for Infection Prevention and Treatment. *Advanced Functional Materials*, **2013**, 23, 854-861	15.6	137
759	Silk Hydrogels as Soft Substrates for Neural Tissue Engineering. *Advanced Functional Materials*, **2013**, 23, 5140-5149	15.6	132
758	Enhanced function of pancreatic islets co-encapsulated with ECM proteins and mesenchymal stromal cells in a silk hydrogel. *Biomaterials*, **2012**, 33, 6691-7	15.6	131
757	Biomaterials derived from silk-tropoelastin protein systems. *Biomaterials*, **2010**, 31, 8121-31	15.6	130
756	The use of silk-based devices for fracture fixation. *Nature Communications*, **2014**, 5, 3385	17.4	129
755	Tunable silk: using microfluidics to fabricate silk fibers with controllable properties. *Biomacromolecules*, **2011**, 12, 1504-11	6.9	129
754	Silk-Based Advanced Materials for Soft Electronics. *Accounts of Chemical Research*, **2019**, 52, 2916-2927	24.3	128

753	Injectable and pH-Responsive Silk Nanofiber Hydrogels for Sustained Anticancer Drug Delivery. *ACS Applied Materials & Interfaces*, **2016**, 8, 17118-26	9.5	127
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751	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, 11981-6	11.5	125
750	VEGF and BMP-2 promote bone regeneration by facilitating bone marrow stem cell homing and differentiation. *European Cells and Materials*, **2014**, 27, 1-11; discussion 11-2	4.3	124
749	Recombinant DNA production of spider silk proteins. *Microbial Biotechnology*, **2013**, 6, 651-63	6.3	123
748	Silk polymer-based adenosine release: therapeutic potential for epilepsy. *Biomaterials*, **2008**, 29, 3609-16	15.6	123
747	Beating the heat--fast scanning melts silk beta sheet crystals. *Scientific Reports*, **2013**, 3, 1130	4.9	121
746	Lyophilized Silk Sponges: A Versatile Biomaterial Platform for Soft Tissue Engineering. *ACS Biomaterials Science and Engineering*, **2015**, 1, 260-270	5.5	120
745	Review physical and chemical aspects of stabilization of compounds in silk. *Biopolymers*, **2012**, 97, 479-98	2.2	120
744	Collagen Structural Hierarchy and Susceptibility to Degradation by Ultraviolet Radiation. *Materials Science and Engineering C*, **2008**, 28, 1420-1429	8.3	120
743	Performance enhancement of terahertz metamaterials on ultrathin substrates for sensing applications. *Applied Physics Letters*, **2010**, 97, 261909	3.4	119
742	Rapid nanoimprinting of silk fibroin films for biophotonic applications. *Advanced Materials*, **2010**, 22, 1746-9	24	119
741	Bone regeneration on macroporous aqueous-derived silk 3-D scaffolds. *Macromolecular Bioscience*, **2007**, 7, 643-55	5.5	118
740	Silk Fibroin as Edible Coating for Perishable Food Preservation. *Scientific Reports*, **2016**, 6, 25263	4.9	117
739	Direct-write assembly of 3D silk/hydroxyapatite scaffolds for bone co-cultures. *Advanced Healthcare Materials*, **2012**, 1, 729-35	10.1	116
738	Self-assembling doxorubicin silk hydrogels for the focal treatment of primary breast cancer. *Advanced Functional Materials*, **2013**, 23, 58-65	15.6	116
737	Liquid Exfoliated Natural Silk Nanofibrils: Applications in Optical and Electrical Devices. *Advanced Materials*, **2016**, 28, 7783-90	24	115
736	Osteoinductive silk-silica composite biomaterials for bone regeneration. *Biomaterials*, **2010**, 31, 8902-10	15.6	115

735	Programmable 3D silk bone marrow niche for platelet generation ex vivo and modeling of megakaryopoiesis pathologies. *Blood*, **2015**, 125, 2254-64	2.2	113
734	The effect of genetically engineered spider silk-dentin matrix protein 1 chimeric protein on hydroxyapatite nucleation. *Biomaterials*, **2007**, 28, 2358-67	15.6	113
733	Gel spinning of silk tubes for tissue engineering. *Biomaterials*, **2008**, 29, 4650-7	15.6	113
732	Ultrathin Free-Standing Bombyx mori Silk Nanofibril Membranes. *Nano Letters*, **2016**, 16, 3795-800	11.5	113
731	Corneal tissue engineering: recent advances and future perspectives. *Tissue Engineering - Part B: Reviews*, **2015**, 21, 278-87	7.9	112
730	Stabilization and release of enzymes from silk films. *Macromolecular Bioscience*, **2010**, 10, 359-68	5.5	112
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724	Integration of stiff graphene and tough silk for the design and fabrication of versatile electronic materials. *Advanced Functional Materials*, **2018**, 28, 1705291	15.6	109
723	Evidence of a Cholesteric Liquid Crystalline Phase in Natural Silk Spinning Processes. *Macromolecules*, **1996**, 29, 5106-5110	5.5	109
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721	Vascularization of hollow channel-modified porous silk scaffolds with endothelial cells for tissue regeneration. *Biomaterials*, **2015**, 56, 68-77	15.6	107
720	In vitro 3D model for human vascularized adipose tissue. *Tissue Engineering - Part A*, **2009**, 15, 2227-36	3.9	107
719	Hydrophobic drug-triggered self-assembly of nanoparticles from silk-elastin-like protein polymers for drug delivery. *Biomacromolecules*, **2014**, 15, 908-14	6.9	106
718	Scientific, sustainability and regulatory challenges of cultured meat. *Nature Food*, **2020**, 1, 403-415	14.4	105

717	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, 12052-7	11.5	104
716	Impact of silk biomaterial structure on proteolysis. *Acta Biomaterialia*, **2015**, 11, 212-21	10.8	104
715	Expression, cross-linking, and characterization of recombinant chitin binding resilin. *Biomacromolecules*, **2009**, 10, 3227-34	6.9	104
714	Silk fibroin electrogelation mechanisms. *Acta Biomaterialia*, **2011**, 7, 2394-400	10.8	104
713	Robust bioengineered 3D functional human intestinal epithelium. *Scientific Reports*, **2015**, 5, 13708	4.9	103
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711	Characterization and optimization of RGD-containing silk blends to support osteoblastic differentiation. *Biomaterials*, **2008**, 29, 2556-63	15.6	103
710	Osteogenic differentiation of human bone marrow stromal cells on partially demineralized bone scaffolds in vitro. *Tissue Engineering*, **2004**, 10, 81-92		103
709	Self-assembly of genetically engineered spider silk block copolymers. *Biomacromolecules*, **2009**, 10, 229-36	6.9	102
708	Reinforcing silk scaffolds with silk particles. *Macromolecular Bioscience*, **2010**, 10, 599-611	5.5	102
707	A silk-based scaffold platform with tunable architecture for engineering critically-sized tissue constructs. *Biomaterials*, **2012**, 33, 9214-24	15.6	101
706	Nanofibrous architecture of silk fibroin scaffolds prepared with a mild self-assembly process. *Biomaterials*, **2011**, 32, 1059-67	15.6	101
705	A complex 3D human tissue culture system based on mammary stromal cells and silk scaffolds for modeling breast morphogenesis and function. *Biomaterials*, **2010**, 31, 3920-9	15.6	101
704	Mechanisms and control of silk-based electrospinning. *Biomacromolecules*, **2012**, 13, 798-804	6.9	100
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701	Elasticity maps of living neurons measured by combined fluorescence and atomic force microscopy. *Biophysical Journal*, **2012**, 103, 868-77	2.9	99
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