David L Kaplan

List of Publications by Year in Descending Order

1,119 papers	86,356 citations	145 h-index	246 g-index
1,165 ext. papers	97,025 ext. citations	9 avg, IF	8.44 L-index

#	Paper	IF	Citations
1119	Nerve Growth Factor-Laden Anisotropic Silk Nanofiber Hydrogels to Regulate Neuronal/Astroglial Differentiation for Scarless Spinal Cord Repair.. *ACS Applied Materials & Interfaces*, **2022**,	9.5	4
1118	Bioengineered models of Parkinson's disease using patient-derived dopaminergic neurons exhibit distinct biological profiles in a 3D microenvironment.. *Cellular and Molecular Life Sciences*, **2022**, 79, 78	10.3	0
1117	Photoacoustic Carbon Nanotubes Embedded Silk Scaffolds for Neural Stimulation and Regeneration.. *ACS Nano*, **2022**,	16.7	4
1116	Acute multidrug delivery via a wearable bioreactor facilitates long-term limb regeneration and functional recovery in adult .. *Science Advances*, **2022**, 8, eabj2164	14.3	2
1115	Protein-amylose/amylopectin molecular interactions during high-moisture extruded texturization toward plant-based meat substitutes applications. *Food Hydrocolloids*, **2022**, 127, 107559	10.6	1
1114	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	4.1	1
1113	Anisotropic silk nanofiber layers as regulators of angiogenesis for optimized bone regeneration. *Materials Today Bio*, **2022**, 100283	9.9	1
1112	3D porous scaffolds from wheat glutenin for cultured meat applications.. *Biomaterials*, **2022**, 285, 121543	15.6	5
1111	Simple and effective serum-free medium for sustained expansion of bovine satellite cells for cell cultured meat. *Communications Biology*, **2022**, 5,	6.7	4
1110	Intraarticularly injectable silk hydrogel microspheres with enhanced mechanical and structural stability to attenuate osteoarthritis. *Biomaterials*, **2022**, 286, 121611	15.6	2
1109	Toughening Wet-Spun Silk Fibers by Silk Nanofiber Templating.. *Macromolecular Rapid Communications*, **2021**, e2100891	4.8	5
1108	Genetic inhibition of RIPK3 ameliorates functional outcome in controlled cortical impact independent of necroptosis. *Cell Death and Disease*, **2021**, 12, 1064	9.8	1
1107	Perspectives on scaling production of adipose tissue for food applications.. *Biomaterials*, **2021**, 280, 121273	15.6	5
1106	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	8.9	3
1105	Fiber-Based Biopolymer Processing as a Route toward Sustainability. *Advanced Materials*, **2021**, e2105196	24	10
1104	On-Demand Regulation of Dual Thermosensitive Protein Hydrogels.. *ACS Macro Letters*, **2021**, 10, 395-400	6.6	2
1103	Integrated functional neuronal network analysis of 3D silk-collagen scaffold-based mouse cortical culture. *STAR Protocols*, **2021**, 2, 100292	1.4	1

1102	Learning and synaptic plasticity in 3D bioengineered neural tissues. *Neuroscience Letters*, **2021**, 750, 135799	3.3	0
1101	Recent Advances in 3D Printing with Protein-Based Inks. *Progress in Polymer Science*, **2021**, 115, 101375-101375	29.5	20
1100	Natural Silk Nanofibril Aerogels with Distinctive Filtration Capacity and Heat-Retention Performance. *ACS Nano*, **2021**, 15, 8171-8183	16.7	12
1099	Toward Studying Cognition in a Dish. *Trends in Cognitive Sciences*, **2021**, 25, 294-304	14	2
1098	Sugar Functionalization of Silks with Pathway-Controlled Substitution and Properties. *Advanced Biology*, **2021**, 5, e2100388		4
1097	Fragile-Tough Mechanical Reversion of Silk Materials via Tuning Supramolecular Assembly. *ACS Biomaterials Science and Engineering*, **2021**, 7, 2337-2345	5.5	2
1096	Miniaturized 3D bone marrow tissue model to assess response to Thrombopoietin-receptor agonists in patients. *ELife*, **2021**, 10,	8.9	1
1095	Nerve Guidance Conduits with Hierarchical Anisotropic Architecture for Peripheral Nerve Regeneration. *Advanced Healthcare Materials*, **2021**, 10, e2100427	10.1	7
1094	Bioinspired Energy Storage and Harvesting Devices. *Advanced Materials Technologies*, **2021**, 6, 2001301	6.8	3
1093	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	5.6	0
1092	Effect of the silica nanoparticle size on the osteoinduction of biomineralized silk-silica nanocomposites. *Acta Biomaterialia*, **2021**, 120, 203-212	10.8	3
1091	InVitro Models of Intestine Innate Immunity. *Trends in Biotechnology*, **2021**, 39, 274-285	15.1	1
1090	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	9.3	10
1089	In Situ 3D Printing: Opportunities with Silk Inks. *Trends in Biotechnology*, **2021**, 39, 719-730	15.1	15
1088	Protein composites from silkworm cocoons as versatile biomaterials. *Acta Biomaterialia*, **2021**, 121, 180-192	10.8	7
1087	Dynamically tunable light responsive silk-elastin-like proteins. *Acta Biomaterialia*, **2021**, 121, 214-223	10.8	15
1086	Spinning Regenerated Silk Fibers with Improved Toughness by Plasticizing with Low Molecular Weight Silk. *Biomacromolecules*, **2021**, 22, 788-799	6.9	4
1085	On the effect of neuronal spatial subsampling in small-world networks. *European Journal of Neuroscience*, **2021**, 53, 485-498	3.5	1

1084	mRNA Delivery Using Bioreducible Lipidoid Nanoparticles Facilitates Neural Differentiation of Human Mesenchymal Stem Cells. *Advanced Healthcare Materials*, **2021**, 10, e2000938	10.1	7
1083	Brain organoid formation on decellularized porcine brain ECM hydrogels. *PLoS ONE*, **2021**, 16, e0245685	3.7	14
1082	Injectable silk nanofiber hydrogels as stem cell carriers to accelerate wound healing. *Journal of Materials Chemistry B*, **2021**, 9, 7771-7781	7.3	2
1081	Silk Reservoir Implants for Sustained Drug Delivery. *ACS Applied Bio Materials*, **2021**, 4, 869-880	4.1	2
1080	Liquid-Exfoliated Mesostructured Collagen from the Bovine Achilles Tendon as Building Blocks of Collagen Membranes. *ACS Applied Materials & Interfaces*, **2021**, 13, 3186-3198	9.5	7
1079	Generation of Nano-pores in Silk Fibroin Films Using Silk Nanoparticles for Full-Thickness Wound Healing. *Biomacromolecules*, **2021**, 22, 546-556	6.9	7
1078	Silk Hydrogels with Controllable Formation of Dityrosine, 3,4-Dihydroxyphenylalanine, and 3,4-Dihydroxyphenylalanine-Fe Complexes through Chitosan Particle-Assisted Fenton Reactions. *Biomacromolecules*, **2021**, 22, 773-787	6.9	4
1077	Aligned Silk Sponge Fabrication and Perfusion Culture for Scalable Proximal Tubule Tissue Engineering. *ACS Applied Materials & Interfaces*, **2021**, 13, 10768-10777	9.5	5
1076	Injectable Desferrioxamine-Laden Silk Nanofiber Hydrogels for Accelerating Diabetic Wound Healing. *ACS Biomaterials Science and Engineering*, **2021**, 7, 1147-1158	5.5	8
1075	Rheological characterization, compression, and injection molding of hydroxyapatite-silk fibroin composites. *Biomaterials*, **2021**, 269, 120643	15.6	6
1074	Biopolymer Nanoscale Assemblies as Building Blocks for New Materials: A Review. *Advanced Functional Materials*, **2021**, 31, 2008552	15.6	19
1073	Mechanical Training-Driven Structural Remodeling: A Rational Route for Outstanding Highly Hydrated Silk Materials. *Small*, **2021**, 17, e2102660	11	3
1072	Electro-Blown Spun Silk/Graphene Nanoionotronic Skin for Multifunctional Fire Protection and Alarm. *Advanced Materials*, **2021**, 33, e2102500	24	10
1071	On the prediction of neuronal microscale topology descriptors based on mesoscale recordings. *European Journal of Neuroscience*, **2021**, 54, 6147-6167	3.5	
1070	Blastocyst-Inspired Hydrogels to Maintain Undifferentiation of Mouse Embryonic Stem Cells. *ACS Nano*, **2021**, 15, 14162-14173	16.7	1
1069	Functionalized 3D-printed silk-hydroxyapatite scaffolds for enhanced bone regeneration with innervation and vascularization. *Biomaterials*, **2021**, 276, 120995	15.6	17
1068	Axonal growth on surfaces with periodic geometrical patterns. *PLoS ONE*, **2021**, 16, e0257659	3.7	0
1067	Study the lipidoid nanoparticle mediated genome editing protein delivery using 3D intestinal tissue model. *Bioactive Materials*, **2021**, 6, 3671-3677	16.7	1

1066	Pressure-driven spreadable deferoxamine-laden hydrogels for vascularized skin flaps. *Biomaterials Science*, **2021**, 9, 3162-3170	7.4	2
1065	Asiaticoside-laden silk nanofiber hydrogels to regulate inflammation and angiogenesis for scarless skin regeneration. *Biomaterials Science*, **2021**, 9, 5227-5236	7.4	3
1064	Radially Aligned Porous Silk Fibroin Scaffolds as Functional Templates for Engineering Human Biomimetic Hepatic Lobules.. *ACS Applied Materials & Interfaces*, **2021**,	9.5	2
1063	Plant-based and cell-based approaches to meat production. *Nature Communications*, **2020**, 11, 6276	17.4	73
1062	Assessing the compatibility of primary human hepatocyte culture within porous silk sponges.. *RSC Advances*, **2020**, 10, 37662-37674	3.7	6
1061	A 3D human brain-like tissue model of herpes-induced Alzheimerβ disease. *Science Advances*, **2020**, 6, eaay8828	14.3	90
1060	Modeling Controlled Cortical Impact Injury in 3D Brain-Like Tissue Cultures. *Advanced Healthcare Materials*, **2020**, 9, e2000122	10.1	9
1059	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	11.5	29
1058	Synthesis and Characterization of Silk Ionomers for Layer-by-Layer Electrostatic Deposition on Individual Mammalian Cells. *Biomacromolecules*, **2020**, 21, 2829-2843	6.9	9
1057	Soft Tissue Engineering **2020**, 1399-1414		2
1056	Human Adipose Derived Cells in Two- and Three-Dimensional Cultures: Functional Validation of an In Vitro Fat Construct. *Stem Cells International*, **2020**, 2020, 4242130	5	9
1055	Silk degumming time controls horseradish peroxidase-catalyzed hydrogel properties. *Biomaterials Science*, **2020**, 8, 4176-4185	7.4	16
1054	Enhancing sustained-release local therapy: Single versus dual chemotherapy for the treatment of neuroblastoma. *Surgery*, **2020**, 167, 969-977	3.6	3
1053	Tough Anisotropic Silk Nanofiber Hydrogels with Osteoinductive Capacity. *ACS Biomaterials Science and Engineering*, **2020**, 6, 2357-2367	5.5	17
1052	Interferon-Gamma Stimulated Murine Macrophages : Impact of Ionic Composition and Osmolarity and Therapeutic Implications. *Bioelectricity*, **2020**, 2, 48-58	2	5
1051	Injectable hydrogel systems with multiple biophysical and biochemical cues for bone regeneration. *Biomaterials Science*, **2020**, 8, 2537-2548	7.4	21
1050	Innovations in 3-Dimensional Tissue Models of Human Brain Physiology and Diseases. *Advanced Functional Materials*, **2020**, 30, 1909146	15.6	19
1049	Flexible Water-Absorbing Silk-Fibroin Biomaterial Sponges with Unique Pore Structure for Tissue Engineering. *ACS Biomaterials Science and Engineering*, **2020**, 6, 1641-1649	5.5	11

1048	Bi-layered Tubular Microfiber Scaffolds as Functional Templates for Engineering Human Intestinal Smooth Muscle Tissue. *Advanced Functional Materials*, **2020**, 30, 2000543	15.6	12
1047	From Silk Spinning to 3D Printing: Polymer Manufacturing using Directed Hierarchical Molecular Assembly. *Advanced Healthcare Materials*, **2020**, 9, e1901552	10.1	36
1046	Cervical Augmentation with an Injectable Silk-Based Gel: Biocompatibility in a Rat Model of Pregnancy. *Reproductive Sciences*, **2020**, 27, 1215-1221	3	
1045	Engineering Silk Materials: From Natural Spinning to Artificial Processing. *Applied Physics Reviews*, **2020**, 7,	17.3	30
1044	A Long-Living Bioengineered Neural Tissue Platform to Study Neurodegeneration. *Macromolecular Bioscience*, **2020**, 20, e2000004	5.5	18
1043	Enzymatic Degradation of Silk Materials: A Review. *Biomacromolecules*, **2020**, 21, 1678-1686	6.9	45
1042	Prospects and challenges for cell-cultured fat as a novel food ingredient. *Trends in Food Science and Technology*, **2020**, 98, 53-67	15.3	26
1041	Adverse effects of Alport syndrome-related Gly missense mutations on collagen type IV: Insights from molecular simulations and experiments. *Biomaterials*, **2020**, 240, 119857	15.6	11
1040	Natural Nanofiber Shuttles for Transporting Hydrophobic Cargo into Aqueous Solutions. *Biomacromolecules*, **2020**, 21, 1022-1030	6.9	10
1039	Tunable Biodegradable Silk-Based Memory Foams with Controlled Release of Antibiotics.. *ACS Applied Bio Materials*, **2020**, 3, 2466-2472	4.1	10
1038	Microskin-Inspired Injectable MSC-Laden Hydrogels for Scarless Wound Healing with Hair Follicles. *Advanced Healthcare Materials*, **2020**, 9, e2000041	10.1	26
1037	Smart Material Hydrogel Transfer Devices Fabricated with Stimuli-Responsive Silk-Elastin-Like Proteins. *Advanced Healthcare Materials*, **2020**, 9, e2000266	10.1	15
1036	Enzyme-Mediated Conjugation of Peptides to Silk Fibroin for Facile Hydrogel Functionalization. *Annals of Biomedical Engineering*, **2020**, 48, 1905-1915	4.7	11
1035	Induction of Irritation and Inflammation in a 3D Innervated Tissue Model of the Human Cornea. *ACS Biomaterials Science and Engineering*, **2020**, 6, 6886-6895	5.5	0
1034	Electric field-driven building blocks for introducing multiple gradients to hydrogels. *Protein and Cell* , **2020**, 11, 267-285	7.2	20
1033	Silk fibroin for skin injury repair: Where do things stand?. *Advanced Drug Delivery Reviews*, **2020**, 153, 28-53	18.5	62
1032	Fabricating mechanically improved silk-based vascular grafts by solution control of the gel-spinning process. *Biomaterials*, **2020**, 230, 119567	15.6	24
1031	Assessment of Enrichment of Human Mesenchymal Stem Cells Based on Plasma and Mitochondrial Membrane Potentials. *Bioelectricity*, **2020**, 2, 21-32	2	4

1030	Transgenic PDGF-BB/sericin hydrogel supports for cell proliferation and osteogenic differentiation. *Biomaterials Science*, **2020**, 8, 657-672	7.4	11
1029	Enzymatically crosslinked silk and silk-gelatin hydrogels with tunable gelation kinetics, mechanical properties and bioactivity for cell culture and encapsulation. *Biomaterials*, **2020**, 232, 119720	15.6	73
1028	Characterization of silk-hyaluronic acid composite hydrogels towards vitreous humor substitutes. *Biomaterials*, **2020**, 233, 119729	15.6	36
1027	Facile production of natural silk nanofibers for electronic device applications. *Composites Science and Technology*, **2020**, 187, 107950	8.6	17
1026	Thermoplastic moulding of regenerated silk. *Nature Materials*, **2020**, 19, 102-108	27	68
1025	Silk-based encapsulation materials to enhance pancreatic cell functions **2020**, 329-337		3
1024	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	5.5	10
1023	Developing a self-organized tubulogenesis model of human renal proximal tubular epithelial cells in vitro. *Journal of Biomedical Materials Research - Part A*, **2020**, 108, 795-804	5.4	3
1022	Design of biodegradable, implantable devices towards clinical translation. *Nature Reviews Materials* , **2020**, 5, 61-81	73.3	188
1021	Engineering immunity for next generation HIV vaccines: The intersection of bioengineering and immunology. *Vaccine*, **2020**, 38, 187-193	4.1	4
1020	Observations of 3 nm Silk Nanofibrils Exfoliated from Natural Silkworm Silk Fibers **2020**, 2, 153-160		14
1019	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	5.8	3
1018	Bioengineered elastin- and silk-biomaterials for drug and gene delivery. *Advanced Drug Delivery Reviews*, **2020**, 160, 186-198	18.5	23
1017	Engineering carotenoid production in mammalian cells for nutritionally enhanced cell-cultured foods. *Metabolic Engineering*, **2020**, 62, 126-137	9.7	12
1016	Functional Characterization of Three-Dimensional Cortical Cultures for In Vitro Modeling of Brain Networks. *IScience*, **2020**, 23, 101434	6.1	12
1015	Silk Fibroin Microneedle Patches for the Sustained Release of Levonorgestrel. *ACS Applied Bio Materials*, **2020**, 3, 5375-5382	4.1	30
1014	Tuning Microcapsule Shell Thickness and Structure with Silk Fibroin and Nanoparticles for Sustained Release. *ACS Biomaterials Science and Engineering*, **2020**, 6, 4583-4594	5.5	2
1013	Matrix Deformation with Ectopic Cells Induced by Rotational Motion in Bioengineered Neural Tissues. *Annals of Biomedical Engineering*, **2020**, 48, 2192-2203	4.7	

1012	Stability and biodegradation of silk fibroin/hyaluronic acid nerve conduits. *Composites Part B: Engineering*, **2020**, 200, 108222	10	13
1011	Scientific, sustainability and regulatory challenges of cultured meat. *Nature Food*, **2020**, 1, 403-415	14.4	105
1010	Expanding Canonical Spider Silk Properties through a DNA Combinatorial Approach. *Materials*, **2020** , 13,	3.5	4
1009	A 3D Tissue Model of Traumatic Brain Injury with Excitotoxicity That Is Inhibited by Chronic Exposure to Gabapentinoids. *Biomolecules*, **2020**, 10,	5.9	1
1008	Self-Folding 3D Silk Biomaterial Rolls to Facilitate Axon and Bone Regeneration. *Advanced Healthcare Materials*, **2020**, 9, e2000530	10.1	8
1007	Photo-Crosslinked Silk Fibroin for 3D Printing. *Polymers*, **2020**, 12,	4.5	9
1006	Silk Polymers and Nanoparticles: A Powerful Combination for the Design of Versatile Biomaterials. *Frontiers in Chemistry*, **2020**, 8, 604398	5	9
1005	Defined extracellular ionic solutions to study and manipulate the cellular resting membrane potential. *Biology Open*, **2020**, 9,	2.2	5
1004	Ex vivo pregnant-like tissue model to assess injectable hydrogel for preterm birth prevention. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2020**, 108, 468-474	3.5	2
1003	Injectable Silk-Based Hydrogel as an Alternative to Cervical Cerclage: A Rabbit Study. *Tissue Engineering - Part A*, **2020**, 26, 379-386	3.9	6
1002	3D Printing of Silk Protein Structures by Aqueous Solvent-Directed Molecular Assembly. *Macromolecular Bioscience*, **2020**, 20, e1900191	5.5	22
1001	Two- and Three-Dimensional Bioengineered Human Intestinal Tissue Models for Cryptosporidium. *Methods in Molecular Biology*, **2020**, 2052, 373-402	1.4	10
1000	Microfluidic Silk Fibers with Aligned Hierarchical Microstructures. *ACS Biomaterials Science and Engineering*, **2020**, 6, 2847-2854	5.5	12
999	Time-Dependent Changes in Microglia Transcriptional Networks Following Traumatic Brain Injury. *Frontiers in Cellular Neuroscience*, **2019**, 13, 307	6.1	37
998	The importance of the neuro-immuno-cutaneous system on human skin equivalent design. *Cell Proliferation*, **2019**, 52, e12677	7.9	19
997	Antimicrobial coating of spider silk to prevent bacterial attachment on silk surgical sutures. *Acta Biomaterialia*, **2019**, 99, 236-246	10.8	34
996	Silk-Based Advanced Materials for Soft Electronics. *Accounts of Chemical Research*, **2019**, 52, 2916-2927	24.3	128
995	3D bioengineered tissue model of the large intestine to study inflammatory bowel disease. *Biomaterials*, **2019**, 225, 119517	15.6	31

994	Replicating and identifying large cell neuroblastoma using high-dose intra-tumoral chemotherapy and automated digital analysis. *Journal of Pediatric Surgery*, **2019**, 54, 2595-2599	2.6	1
993	3D extracellular matrix microenvironment in bioengineered tissue models of primary pediatric and adult brain tumors. *Nature Communications*, **2019**, 10, 4529	17.4	51
992	Silk-Based Therapeutics Targeting. *Journal of Functional Biomaterials*, **2019**, 10,	4.8	1
991	Hybrid and Composite Scaffolds Based on Extracellular Matrices for Cartilage Tissue Engineering. *Tissue Engineering - Part B: Reviews*, **2019**, 25, 202-224	7.9	36
990	Melatonin-induced osteogenesis with methanol-annealed silk materials. *Journal of Bioactive and Compatible Polymers*, **2019**, 34, 291-305	2	4
989	Understanding Secondary Structures of Silk Materials via Micro- and Nano-Infrared Spectroscopies. *ACS Biomaterials Science and Engineering*, **2019**, 5, 3161-3183	5.5	25
988	Extended release formulations using silk proteins for controlled delivery of therapeutics. *Expert Opinion on Drug Delivery*, **2019**, 16, 741-756	8	31
987	Possibilities for Engineered Insect Tissue as a Food Source. *Frontiers in Sustainable Food Systems*, **2019**, 3,	4.8	9
986	Polyvinyl Alcohol/Silk Fibroin/Borax Hydrogel Ionotronics: A Highly Stretchable, Self-Healable, and Biocompatible Sensing Platform. *ACS Applied Materials & Interfaces*, **2019**, 11, 23632-23638	9.5	88
985	Structure-Chemical Modification Relationships with Silk Materials. *ACS Biomaterials Science and Engineering*, **2019**, 5, 2762-2768	5.5	9
984	Polycystin 2 regulates mitochondrial Ca signaling, bioenergetics, and dynamics through mitofusin 2. *Science Signaling*, **2019**, 12,	8.8	44
983	Microporous drug-eluting large silk particles through cryo-granulation. *Advanced Engineering Materials*, **2019**, 21, 1801242	3.5	2
982	Control of octreotide release from silk fibroin microspheres. *Materials Science and Engineering C*, **2019**, 102, 820-828	8.3	11
981	Feasibility of low field MRI and proteomics for the analysis of Tissue Engineered bone. *Biomedical Physics and Engineering Express*, **2019**, 5, 025037	1.5	
980	Film interface for drug testing for delivery to cells in culture and in the brain. *Acta Biomaterialia*, **2019**, 94, 306-319	10.8	10
979	Membrane Potential Depolarization Alters Calcium Flux and Phosphate Signaling During Osteogenic Differentiation of Human Mesenchymal Stem Cells. *Bioelectricity*, **2019**, 1, 56-66	2	14
978	Sustained release silk fibroin discs: Antibody and protein delivery for HIV prevention. *Journal of Controlled Release*, **2019**, 301, 1-12	11.7	19
977	Silk Hydrogel Microfibers for Biomimetic Fibrous Material Design. *Macromolecular Materials and Engineering*, **2019**, 304, 1900045	3.9	6

976	Silk Reservoirs for Local Delivery of Cisplatin for Neuroblastoma Treatment: In Vitro and In Vivo Evaluations. *Journal of Pharmaceutical Sciences*, **2019**, 108, 2748-2755	3.9	11
975	Bioengineered Tissue Model of Fibroblast Activation for Modeling Pulmonary Fibrosis. *ACS Biomaterials Science and Engineering*, **2019**, 5, 2417-2429	5.5	21
974	Scaffolding kidney organoids on silk. *Journal of Tissue Engineering and Regenerative Medicine*, **2019**, 13, 812-822	4.4	22
973	De Novo Synthesis and Assembly of Flexible and Biocompatible Physical Sensing Platforms. *Advanced Materials Technologies*, **2019**, 4, 1800141	6.8	4
972	Experimental Methods for Characterizing the Secondary Structure and Thermal Properties of Silk Proteins. *Macromolecular Rapid Communications*, **2019**, 40, e1800390	4.8	31
971	Tunable Interfacial Properties in Silk Ionomer Microcapsules with Tailored Multilayer Interactions. *Macromolecular Bioscience*, **2019**, 19, e1800176	5.5	5
970	Assembly and Application of a Three-Dimensional Human Corneal Tissue Model. *Current Protocols in Toxicology / Editorial Board, Mahin D Maines (editor-in-chief) [et Al]*, **2019**, 81, e84	1	4
969	Variations of Elastic Modulus and Cell Volume with Temperature for Cortical Neurons. *Langmuir*, **2019**, 35, 10965-10976	4	9
968	Bioengineered in vitro enteric nervous system. *Journal of Tissue Engineering and Regenerative Medicine*, **2019**, 13, 1712-1723	4.4	8
967	Silk Hydrogels Crosslinked by the Fenton Reaction. *Advanced Healthcare Materials*, **2019**, 8, e1900644	10.1	14
966	Directed assembly of robust and biocompatible silk fibroin/hyaluronic acid composite hydrogels. *Composites Part B: Engineering*, **2019**, 176, 107204	10	32
965	3D Printing of Functional Microalgal Silk Structures for Environmental Applications. *ACS Biomaterials Science and Engineering*, **2019**, 5, 4808-4816	5.5	17
964	Injectable Silk Nanofiber Hydrogels for Sustained Release of Small-Molecule Drugs and Vascularization. *ACS Biomaterials Science and Engineering*, **2019**, 5, 4077-4088	5.5	37
963	Subtle Regulation of Scaffold Stiffness for the Optimized Control of Cell Behavior.. *ACS Applied Bio Materials*, **2019**, 2, 3108-3119	4.1	14
962	Conductive Silk-Based Composites Using Biobased Carbon Materials. *Advanced Materials*, **2019**, 31, e1904720	24	26
961	Design and Fabrication of Silk Templated Electronic Yarns and Applications in Multifunctional Textiles. *Matter*, **2019**, 1, 1411-1425	12.7	50
960	SERS Substrate with Silk Nanoribbons as Interlayer Template. *ACS Applied Materials & Interfaces*, **2019**, 11, 42896-42903	9.5	14
959	Injectable Silk-Vaterite Composite Hydrogels with Tunable Sustained Drug Release Capacity. *ACS Biomaterials Science and Engineering*, **2019**, 5, 6602-6609	5.5	5

958	Vascular Pedicle and Microchannels: Simple Methods Toward Effective In Vivo Vascularization of 3D Scaffolds. *Advanced Healthcare Materials*, **2019**, 8, e1901106	10.1	10
957	Hyperosmolar potassium inhibits myofibroblast conversion and reduces scar tissue formation. *ACS Biomaterials Science and Engineering*, **2019**, 5, 5327-5336	5.5	5
956	Extracellular Heme Proteins Influence Bovine Myosatellite Cell Proliferation and the Color of Cell-Based Meat. *Foods*, **2019**, 8,	4.9	31
955	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	9.5	63
954	Design of Silk-Elastin-Like Protein Nanoparticle Systems with Mucoadhesive Properties. *Journal of Functional Biomaterials*, **2019**, 10,	4.8	9
953	Functional maturation of human neural stem cells in a 3D bioengineered brain model enriched with fetal brain-derived matrix. *Scientific Reports*, **2019**, 9, 17874	4.9	24
952	Biological Material Interfaces as Inspiration for Mechanical and Optical Material Designs. *Chemical Reviews*, **2019**, 119, 12279-12336	68.1	73
951	Silk-Graphene Hybrid Hydrogels with Multiple Cues to Induce Nerve Cell Behavior. *ACS Biomaterials Science and Engineering*, **2019**, 5, 613-622	5.5	29
950	Human Skin Equivalents Demonstrate Need for Neuro-Immuno-Cutaneous System. *Advanced Biology*, **2019**, 3, e1800283	3.5	10
949	Preclinical assessment of resorbable silk splints for the treatment of pediatric tracheomalacia. *Laryngoscope*, **2019**, 129, 2189-2194	3.6	2
948	Cell armor for protection against environmental stress: Advances, challenges and applications in micro- and nanoencapsulation of mammalian cells. *Acta Biomaterialia*, **2019**, 95, 3-31	10.8	32
947	Engineering advanced neural tissue constructs to mitigate acute cerebral inflammation after brain transplantation in rats. *Biomaterials*, **2019**, 192, 510-522	15.6	10
946	Corneal pain and experimental model development. *Progress in Retinal and Eye Research*, **2019**, 71, 88-113	20.5	20
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