3D bioprinting of collagen to rebuild components of the

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Citation Report

#	Article	IF	Citations
1	A FRESH SLATE for 3D bioprinting. Science, 2019, 365, 446-447.	6.0	39
2	A FRESH Take on Resolution in 3D Bioprinting. Trends in Biotechnology, 2019, 37, 1153-1155.	4.9	27
3	PCL-MECM-Based Hydrogel Hybrid Scaffolds and Meniscal Fibrochondrocytes Promote Whole Meniscus Regeneration in a Rabbit Meniscectomy Model. ACS Applied Materials & Interfaces, 2019, 11, 41626-41639.	4.0	75
4	Universal Nanocarrier Ink Platform for Biomaterials Additive Manufacturing. Small, 2019, 15, e1905421.	5.2	34
5	Micro-Engineered Models of Development Using Induced Pluripotent Stem Cells. Frontiers in Bioengineering and Biotechnology, 2019, 7, 357.	2.0	8
6	Adult human cardiac stem cell supplementation effectively increases contractile function and maturation in human engineered cardiac tissues. Stem Cell Research and Therapy, 2019, 10, 373.	2.4	17
7	Engineering of Hydrogel Materials with Perfusable Microchannels for Building Vascularized Tissues. Small, 2020, 16, e1902838.	5.2	109
8	Towards chamber specific heart-on-a-chip for drug testing applications. Advanced Drug Delivery Reviews, 2020, 165-166, 60-76.	6.6	52
9	Generating ring-shaped engineered heart tissues from ventricular and atrial human pluripotent stem cell-derived cardiomyocytes. Nature Communications, 2020, 11, 75.	5.8	148
10	Decoupling the effects of hydrophilic and hydrophobic moieties at the neuronâ€“nanofibre interface. Chemical Science, 2020, 11, 1375-1382.	3.7	6
11	Selfâ€Assembled Collagen Microparticles by Aerosol as a Versatile Platform for Injectable Anisotropic Materials. Small, 2020, 16, e1902224.	5.2	11
12	Tissue Engineering and Regenerative Medicine 2019: The Role of Biofabricationâ€"A Year in Review. Tissue Engineering - Part C: Methods, 2020, 26, 91-106.	1.1	60
13	A high-throughput approach to compare the biocompatibility of candidate bioink formulations. Bioprinting, 2020, 17, e00068.	2.9	16
14	Combining additive manufacturing with microfluidics: an emerging method for developing novel organs-on-chips. Current Opinion in Chemical Engineering, 2020, 28, 1-9.	3.8	60
15	Introduction to the state-of-the-art 3D bioprinting methods, design, and applications in orthopedics. Bioprinting, 2020, 18, e00070.	2.9	48
16	Development of 3D bioprinting: From printing methods to biomedical applications. Asian Journal of Pharmaceutical Sciences, 2020, 15, 529-557.	4.3	264
17	Advanced Bottomâ€Up Engineering of Living Architectures. Advanced Materials, 2020, 32, e1903975.	11.1	127
18	Engineered Maturation Approaches of Human Pluripotent Stem Cell-Derived Ventricular Cardiomyocytes. Cells, 2020, 9, 9.	1.8	16

#	Article	IF	Citations
19	Thermofluidic heat exchangers for actuation of transcription in artificial tissues. Science Advances, 2020, 6, .	4.7	14
20	Multiphoton-Excited Deep-Ultraviolet Photolithography for 3D Nanofabrication. ACS Applied Nano Materials, 2020, 3, 11434-11441.	2.4	16
21	Development of Bioimplants with 2D, 3D, and 4D Additive Manufacturing Materials. Engineering, 2020, 6, 1232-1243.	3.2	41
22	FRESH 3D Bioprinting a Full-Size Model of the Human Heart. ACS Biomaterials Science and Engineering, 2020, 6, 6453-6459.	2.6	163
23	Bioengineered human blood vessels. Science, 2020, 370, .	6.0	120
24	Bioprintability: Physiomechanical and Biological Requirements of Materials for 3D Bioprinting Processes. Polymers, 2020, 12, 2262.	2.0	67
25	Biodegradable thermoresponsive polymers: Applications in drug delivery and tissue engineering. Polymer, 2020, 211, 123063.	1.8	84
26	Biohybrid Actuators for Soft Robotics: Challenges in Scaling Up. Actuators, 2020, 9, 96.	1.2	27
27	Mechanical Considerations of Electrospun Scaffolds for Myocardial Tissue and Regenerative Engineering. Bioengineering, 2020, 7, 122.	1.6	28
28	Humanâ€Recombinantâ€Elastinâ€Based Bioinks for 3D Bioprinting of Vascularized Soft Tissues. Advanced Materials, 2020, 32, e2003915.	11.1	104
29	Embedded 3D Bioprinting of Gelatin Methacryloyl-Based Constructs with Highly Tunable Structural Fidelity. ACS Applied Materials & Interfaces, 2020, 12, 44563-44577.	4.0	89
30	Stem Cells and Their Cardiac Derivatives for Cardiac Tissue Engineering and Regenerative Medicine. Antioxidants and Redox Signaling, 2021, 35, 143-162.	2.5	12
31	3D Bioprinting of Macroporous Materials Based on Entangled Hydrogel Microstrands. Advanced Science, 2020, 7, 2001419.	5.6	92
32	Reinforced Gels and Elastomers for Biomedical and Soft Robotics Applications. ACS Applied Polymer Materials, 2020, 2, 1073-1091.	2.0	67
33	Guiding Lights: Tissue Bioprinting Using Photoactivated Materials. Chemical Reviews, 2020, 120, 10950-11027.	23.0	120
34	Granular hydrogels for 3D bioprinting applications. View, 2020, 1, 20200060.	2.7	39
35	Biofabrication strategies for engineering heterogeneous artificial tissues. Additive Manufacturing, 2020, 36, 101459.	1.7	15
36	Bioprinting stem cells: building physiological tissues one cell at a time. American Journal of Physiology - Cell Physiology, 2020, 319, C465-C480.	2.1	18

#	Article	IF	Citations
37	Highâ€Definition Singleâ€Cell Printing: Cellâ€byâ€Cell Fabrication of Biological Structures. Advanced Materials, 2020, 32, e2005346.	11.1	41
38	Fibronectin-based nanomechanical biosensors to map 3D surface strains in live cells and tissue. Nature Communications, 2020, 11, 5883.	5.8	18
39	Vessel-on-a-chip models for studying microvascular physiology, transport, and function in vitro. American Journal of Physiology - Cell Physiology, 2020, 320, C92-C105.	2.1	22
40	Hierarchical Machine Learning for High-Fidelity 3D Printed Biopolymers. ACS Biomaterials Science and Engineering, 2020, 6, 7021-7031.	2.6	44
41	Clinical Applications of Patient-Specific 3D Printed Models in Cardiovascular Disease: Current Status and Future Directions. Biomolecules, 2020, 10, 1577.	1.8	40
42	3D bioprinting of bicellular liver lobule-mimetic structures via microextrusion of cellulose nanocrystal-incorporated shear-thinning bioink. Scientific Reports, 2020, 10, 20648.	1.6	62
43	Coaxial 3D bioprinting of organ prototyps from nutrients delivery to vascularization. Journal of Zhejiang University: Science A, 2020, 21, 859-875.	1.3	18
44	3D micro-organisation printing of mammalian cells to generate biological tissues. Scientific Reports, 2020, 10, 19529.	1.6	20
45	A 3D Bioprinter Specifically Designed for the High-Throughput Production of Matrix-Embedded Multicellular Spheroids. IScience, 2020, 23, 101621.	1.9	50
46	Composite Inks for Extrusion Printing of Biological and Biomedical Constructs. ACS Biomaterials Science and Engineering, 2021, 7, 4009-4026.	2.6	30
47	Engineering breast cancer models in vitro with 3D bioprinting. , 2020, , 399-425.		0
48	Recent Progress on Polymer Materials for Additive Manufacturing. Advanced Functional Materials, 2020, 30, 2003062.	7.8	364
49	A Photoresponsive Hydrogel with Enhanced Photoefficiency and the Decoupled Process of Light Activation and Shape Changing for Precise Geometric Control. ACS Applied Materials & Interfaces, 2020, 12, 38647-38654.	4.0	17
50	A novel biodegradable external stent regulates vein graft remodeling via the Hippo-YAP and mTOR signaling pathways. Biomaterials, 2020, 258, 120254.	5.7	12
51	Bridging the gap between the science of cultured meat and public perceptions. Trends in Food Science and Technology, 2020, 104, 144-152.	7.8	61
52	Direct ink writing advances in multi-material structures for a sustainable future. Journal of Materials Chemistry A, 2020, 8, 15646-15657.	5.2	167
53	Sustainable Materials and Chemical Processes for Additive Manufacturing. Chemistry of Materials, 2020, 32, 7105-7119.	3.2	101
54	3D-Printing Piezoelectric Composite with Honeycomb Structure for Ultrasonic Devices. Micromachines, 2020, 11, 713.	1.4	48

#	Article	IF	Citations
55	Optimizing Bifurcated Channels within an Anisotropic Scaffold for Engineering Vascularized Oriented Tissues. Advanced Healthcare Materials, 2020, 9, e2000782.	3.9	19
56	Screen Printing to Create 3D Tissue Models. ACS Applied Bio Materials, 2020, 3, 8113-8120.	2.3	7
57	Pre-vascularization Approaches for Heart Tissue Engineering. Regenerative Engineering and Translational Medicine, 2021, 7, 450-459.	1.6	4
58	3D Cell Printing of Tissue/Organ-Mimicking Constructs for Therapeutic and Drug Testing Applications. International Journal of Molecular Sciences, 2020, 21, 7757.	1.8	29
59	Stem Cells, Cell Therapies, and Bioengineering in Lung Biology and Disease 2019. ERJ Open Research, 2020, 6, 00123-2020.	1.1	2
60	Assessment of Cardiotoxicity With Stem Cell-based Strategies. Clinical Therapeutics, 2020, 42, 1892-1910.	1.1	11
61	A mini-review of embedded 3D printing: supporting media and strategies. Journal of Materials Chemistry B, 2020, 8, 10474-10486.	2.9	47
62	Recent advances and challenges in materials for 3D bioprinting. Progress in Natural Science: Materials International, 2020, 30, 618-634.	1.8	77
63	Cardiomyocyte Proliferation and Maturation: Two Sides of the Same Coin for Heart Regeneration. Frontiers in Cell and Developmental Biology, 2020, 8, 594226.	1.8	50
64	Tissue engineering solutions to replace contractile function during pediatric heart surgery. Tissue and Cell, 2020, 67, 101452.	1.0	3
65	Cells, Materials, and Fabrication Processes for Cardiac Tissue Engineering. Frontiers in Bioengineering and Biotechnology, 2020, 8, 955.	2.0	32
66	Collagen Hybrid Formulations for the 3D Printing of Nanostructured Bone Scaffolds: An Optimized Genipin-Crosslinking Strategy. Nanomaterials, 2020, 10, 1681.	1.9	39
67	Biomaterials for Bioprinting Microvasculature. Chemical Reviews, 2020, 120, 10887-10949.	23.0	51
68	Solid Organ Bioprinting: Strategies to Achieve Organ Function. Chemical Reviews, 2020, 120, 11093-11127.	23.0	62
69	Functional hydrogel bioink, a key challenge of 3D cellular bioprinting. APL Bioengineering, 2020, 4, 030401.	3.3	27
70	Augmented peripheral nerve regeneration through elastic nerve guidance conduits prepared using a porous PLCL membrane with a 3D printed collagen hydrogel. Biomaterials Science, 2020, 8, 6261-6271.	2.6	48
71	Time-dependent covalent network formation in extrudable hydrogels. Polymer Chemistry, 2020, 11, 6910-6918.	1.9	5
72	Expanding and optimizing 3D bioprinting capabilities using complementary network bioinks. Science Advances, 2020, 6, .	4.7	156

#	Article	IF	Citations
73	Quantitatively Designed Cross-Linker-Clustered Maleimideâ€"Dextran Hydrogels for Rationally Regulating the Behaviors of Cells in a 3D Matrix. ACS Applied Bio Materials, 2020, 3, 5759-5774.	2.3	8
74	Printability and Shape Fidelity of Bioinks in 3D Bioprinting. Chemical Reviews, 2020, 120, 11028-11055.	23.0	552
75	Progress and Challenges in Microengineering the Dental Pulp Vascular Microenvironment. Journal of Endodontics, 2020, 46, S90-S100.	1.4	19
76	Emulating Human Tissues and Organs: A Bioprinting Perspective Toward Personalized Medicine. Chemical Reviews, 2020, 120, 11093-11139.	23.0	61
77	Bioprinting within live animals. Nature Biomedical Engineering, 2020, 4, 851-852.	11.6	7
78	3D Bioprinting and Translation of Beta Cell Replacement Therapies for Type 1 Diabetes. Tissue Engineering - Part B: Reviews, 2021, 27, 238-252.	2.5	11
79	Natural-Based Hydrogels for Tissue Engineering Applications. Molecules, 2020, 25, 5858.	1.7	93
80	Xolography for linear volumetric 3D printing. Nature, 2020, 588, 620-624.	13.7	236
81	3D-bioprinted HepaRG cultures as a model for testing long term aflatoxin B1 toxicity in vitro. Toxicology Reports, 2020, 7, 1578-1587.	1.6	23
82	Toward Biomimetic Scaffolds for Tissue Engineering: 3D Printing Techniques in Regenerative Medicine. Frontiers in Bioengineering and Biotechnology, 2020, 8, 586406.	2.0	66
83	Engineered proteins and three-dimensional printing of living materials. MRS Bulletin, 2020, 45, 1034-1038.	1.7	10
84	Engineering Biomaterials to Guide Heart Cells for Matured Cardiac Tissue. Coatings, 2020, 10, 925.	1.2	17
85	Mini-review: advances in 3D bioprinting of vascularized constructs. Biology Direct, 2020, 15, 22.	1.9	18
86	Current State of the Art in Ventricle Tissue Engineering. Frontiers in Cardiovascular Medicine, 2020, 7, 591581.	1.1	5
87	Biomimetic Design for Bio-Matrix Interfaces and Regenerative Organs. Tissue Engineering - Part B: Reviews, 2021, 27, 411-429.	2.5	5
88	GLP: A requirement in cell therapies - perspectives for the cardiovascular field. Advanced Drug Delivery Reviews, 2020, 165-166, 96-104.	6.6	2
89	Threeâ€dimensional printing: The potential technology widely used in medical fields. Journal of Biomedical Materials Research - Part A, 2020, 108, 2217-2229.	2.1	42
90	Microfluidic fabrication of stable collagen microgels with aligned microstructure using flow-driven co-deposition and ionic gelation. Journal of Micromechanics and Microengineering, 2020, 30, 085002.	1.5	7

#	Article	IF	Citations
91	Remote nongenetic optical modulation of neuronal activity using fuzzy graphene. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 13339-13349.	3.3	52
92	Bioprinting: From Tissue and Organ Development to <i>in Vitro</i> Models. Chemical Reviews, 2020, 120, 10547-10607.	23.0	185
93	Microphysiological Systems: Design, Fabrication, and Applications. ACS Biomaterials Science and Engineering, 2020, 6, 3231-3257.	2.6	32
94	Navigating a product landscape for technology opportunity analysis: A word2vec approach using an integrated patent-product database. Technovation, 2020, 96-97, 102140.	4.2	28
95	Continuous Formation of Ultrathin, Strong Collagen Sheets with Tunable Anisotropy and Compaction. ACS Biomaterials Science and Engineering, 2020, 6, 4236-4246.	2.6	23
96	Polymeric Systems for Bioprinting. Chemical Reviews, 2020, 120, 10744-10792.	23.0	161
97	From Arteries to Capillaries: Approaches to Engineering Human Vasculature. Advanced Functional Materials, 2020, 30, 1910811.	7.8	74
98	Cardiac xenotransplantation: a promising way to treat advanced heart failure. Heart Failure Reviews, 2022, 27, 71-91.	1.7	15
99	Guiding Cell Network Assembly using Shapeâ€Morphing Hydrogels. Advanced Materials, 2020, 32, e2002195.	11.1	34
100	Noninvasive in vivo 3D bioprinting. Science Advances, 2020, 6, eaba7406.	4.7	186
101	Temperature-programmable and enzymatically solidifiable gelatin-based bioinks enable facile extrusion bioprinting. Biofabrication, 2020, 12, 045003.	3.7	21
102	3D Printing Silicone Elastomer for Patientâ€Specific Wearable Pulse Oximeter. Advanced Healthcare Materials, 2020, 9, e1901735.	3.9	41
103	Unexpected Plasticization Effects on the Structure and Properties of Polyelectrolyte Complexed Chitosan/Alginate Materials. ACS Applied Polymer Materials, 2020, 2, 2957-2966.	2.0	11
104	Bioengineering models of female reproduction. Bio-Design and Manufacturing, 2020, 3, 237-251.	3.9	20
105	Artificial Biosystems by Printing Biology. Small, 2020, 16, e1907691.	5.2	21
106	3D Bioprinting and Its Application to Military Medicine. Military Medicine, 2020, 185, e1510-e1519.	0.4	6
107	Toward Cardiac Regeneration: Combination of Pluripotent Stem Cell-Based Therapies and Bioengineering Strategies. Frontiers in Bioengineering and Biotechnology, 2020, 8, 455.	2.0	49
108	Transparent support media for high resolution 3D printing of volumetric cell-containing ECM structures. Biomedical Materials (Bristol), 2020, 15, 045018.	1.7	33

#	Article	IF	Citations
109	Preliminary investigation on a new natural based poly(gammaâ€glutamic acid)/Chitosan bioink. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2020, 108, 2718-2732.	1.6	23
110	Why choose 3D bioprinting? Part II: methods and bioprinters. Bio-Design and Manufacturing, 2020, 3, 1-4.	3.9	39
111	3D printing of Haversian boneâ€"mimicking scaffolds for multicellular delivery in bone regeneration. Science Advances, 2020, 6, eaaz6725.	4.7	201
112	In Situ Expansion, Differentiation, and Electromechanical Coupling of Human Cardiac Muscle in a 3D Bioprinted, Chambered Organoid. Circulation Research, 2020, 127, 207-224.	2.0	174
113	Academic vs industry perspectives in 3D bioprinting. APL Bioengineering, 2020, 4, 010401.	3.3	6
114	Inducing Endogenous Cardiac Regeneration: Can Biomaterials Connect the Dots?. Frontiers in Bioengineering and Biotechnology, 2020, 8, 126.	2.0	30
115	3D Printed Conductive Nanocellulose Scaffolds for the Differentiation of Human Neuroblastoma Cells. Cells, 2020, 9, 682.	1.8	65
116	Soft three-dimensional network materials with rational bio-mimetic designs. Nature Communications, 2020, 11, 1180.	5.8	120
117	Engineering Heart Morphogenesis. Trends in Biotechnology, 2020, 38, 835-845.	4.9	10
118	Generation of model tissues with dendritic vascular networks via sacrificial laser-sintered carbohydrate templates. Nature Biomedical Engineering, 2020, 4, 916-932.	11.6	90
119	High-throughput fabrication of cell-laden 3D biomaterial gradients. Materials Horizons, 2020, 7, 2414-2421.	6.4	20
120	Whole Organ Engineering: Approaches, Challenges, and Future Directions. Applied Sciences (Switzerland), 2020, 10, 4277.	1.3	24
121	3D aggregation of cells in packed microgel media. Soft Matter, 2020, 16, 6572-6581.	1.2	16
122	Printable Ink Design towards Customizable Miniaturized Energy Storage Devices. , 2020, 2, 1041-1056.		45
123	Prospects and Challenges of Translational Corneal Bioprinting. Bioengineering, 2020, 7, 71.	1.6	37
124	Biocompatibility of Biomaterials for Tissue Regeneration or Replacement. Biotechnology Journal, 2020, 15, e2000160.	1.8	55
125	Reciprocal communication between astrocytes and endothelial cells is required for astrocytic glutamate transporter 1 (GLT-1) expression. Neurochemistry International, 2020, 139, 104787.	1.9	17
126	Glycerol plasticisation of chitosan/carboxymethyl cellulose composites: Role of interactions in determining structure and properties. International Journal of Biological Macromolecules, 2020, 163, 683-693.	3.6	19

#	Article	IF	Citations
127	Engineered biomaterials for in situ tissue regeneration. Nature Reviews Materials, 2020, 5, 686-705.	23.3	420
128	Bioprinting Organsâ€"Progress Toward a Moonshot Idea. Transplantation, 2020, 104, 1310-1311.	0.5	3
129	Additive Biomanufacturing with Collagen Inks. Bioengineering, 2020, 7, 66.	1.6	34
130	Dynamic Bioinks to Advance Bioprinting. Advanced Healthcare Materials, 2020, 9, e1901798.	3.9	141
131	Biofabrication Strategies and Engineered In Vitro Systems for Vascular Mechanobiology. Advanced Healthcare Materials, 2020, 9, e1901255.	3.9	35
132	From biomimicry to bioelectronics: Smart materials for cardiac tissue engineering. Nano Research, 2020, 13, 1253-1267.	5.8	25
133	From Silk Spinning to 3D Printing: Polymer Manufacturing using Directed Hierarchical Molecular Assembly. Advanced Healthcare Materials, 2020, 9, e1901552.	3.9	53
134	Nanoâ€•and Microfabrication for Engineering Nativeâ€Like Muscle Tissues. Small Methods, 2020, 4, 1900669.	4.6	13
135	3D printing of hydrogels: Rational design strategies and emerging biomedical applications. Materials Science and Engineering Reports, 2020, 140, 100543.	14.8	494
136	Immersion Bioprinting of Tumor Organoids in Multi-Well Plates for Increasing Chemotherapy Screening Throughput. Micromachines, 2020, 11, 208.	1.4	103
137	Tissue Engineering Models for the Study of Breast Neoplastic Disease and the Tumor Microenvironment. Tissue Engineering - Part B: Reviews, 2020, 26, 423-442.	2.5	3
138	Xenotransplantation: Current Status in Preclinical Research. Frontiers in Immunology, 2019, 10, 3060.	2.2	125
139	From Shape to Function: The Next Step in Bioprinting. Advanced Materials, 2020, 32, e1906423.	11.1	298
140	Engineering anisotropic 3D tubular tissues with flexible thermoresponsive nanofabricated substrates. Biomaterials, 2020, 240, 119856.	5.7	28
141	3Dâ€Printed Structure Boosts the Kinetics and Intrinsic Capacitance of Pseudocapacitive Graphene Aerogels. Advanced Materials, 2020, 32, e1906652.	11.1	191
142	3D Printing in Suspension Baths: Keeping the Promises of Bioprinting Afloat. Trends in Biotechnology, 2020, 38, 584-593.	4.9	183
143	Optimizing skin pharmacotherapy for older patients: the future is at hand but are we ready for it?. Drug Discovery Today, 2020, 25, 851-861.	3.2	3
144	Extracellular Matrix Structure and Composition in the Early Four-Chambered Embryonic Heart. Cells, 2020, 9, 285.	1.8	19

#	Article	IF	Citations
145	Engineering Tissue Fabrication With Machine Intelligence: Generating a Blueprint for Regeneration. Frontiers in Bioengineering and Biotechnology, 2019, 7, 443.	2.0	30
146	Sacrificial microgel-laden bioink-enabled 3D bioprinting of mesoscale pore networks. Bio-Design and Manufacturing, 2020, 3, 30-39.	3.9	65
147	Assembling Living Building Blocks to Engineer Complex Tissues. Advanced Functional Materials, 2020, 30, 1909009.	7.8	76
148	Materials and Microenvironments for Engineering the Intestinal Epithelium. Annals of Biomedical Engineering, 2020, 48, 1916-1940.	1.3	10
149	Freeze-FRESH: A 3D Printing Technique to Produce Biomaterial Scaffolds with Hierarchical Porosity. Materials, 2020, 13, 354.	1.3	26
150	Lung tissue engineering. , 2020, , 1273-1285.		0
151	3D printing of a biocompatible low molecular weight supramolecular hydrogel by dimethylsulfoxide water solvent exchange. Additive Manufacturing, 2020, 33, 101162.	1.7	11
152	Fracture of tough and stiff metallosupramolecular hydrogels. Materials Today Physics, 2020, 13, 100202.	2.9	18
153	Methylcellulose â€“ a versatile printing material that enables biofabrication of tissue equivalents with high shape fidelity. Biomaterials Science, 2020, 8, 2102-2110.	2.6	69
154	Organoid technology for tissue engineering. Journal of Molecular Cell Biology, 2020, 12, 569-579.	1.5	38
155	Comprehensive Assessment of Nile Tilapia Skin (Oreochromis niloticus) Collagen Hydrogels for Wound Dressings. Marine Drugs, 2020, 18, 178.	2.2	80
156	Three-Dimensional Printing of Hydrogel Scaffolds with Hierarchical Structure for Scalable Stem Cell Culture. ACS Biomaterials Science and Engineering, 2020, 6, 2995-3004.	2.6	20
157	Combinatorial Treatment of Human Cardiac Engineered Tissues With Biomimetic Cues Induces Functional Maturation as Revealed by Optical Mapping of Action Potentials and Calcium Transients. Frontiers in Physiology, 2020, 11, 165.	1.3	10
158	3D Printing of Bioinspired Biomaterials for Tissue Regeneration. Advanced Healthcare Materials, 2020, 9, e2000208.	3.9	52
159	Moving beyond two-dimensional screens to interactive three-dimensional visualization in congenital heart disease. International Journal of Cardiovascular Imaging, 2020, 36, 1567-1573.	0.7	10
160	A Review of 3D Printing Technologies for Soft Polymer Materials. Advanced Functional Materials, 2020, 30, 2000187.	7.8	379
161	Bioprinting Neural Systems to Model Central Nervous System Diseases. Advanced Functional Materials, 2020, 30, 1910250.	7.8	38
162	Freeform 3D printing using a continuous viscoelastic supporting matrix. Biofabrication, 2020, 12, 035017.	3.7	49

#	Article	IF	Citations
163	Photopolymerizable Biomaterials and Light-Based 3D Printing Strategies for Biomedical Applications. Chemical Reviews, 2020, 120, 10695-10743.	23.0	283
164	Three-dimensional bioprinting healthy and diseased models of the brain tissue using stem cells. Current Opinion in Biomedical Engineering, 2020, 14, 25-33.	1.8	12
165	Fundamentals and Applications of Photo-Cross-Linking in Bioprinting. Chemical Reviews, 2020, 120, 10662-10694.	23.0	222
166	Advances in the Fabrication of Biomaterials for Gradient Tissue Engineering. Trends in Biotechnology, 2021, 39, 150-164.	4.9	98
167	Bioprinting a Multifunctional Bioink to Engineer Clickable 3D Cellular Niches with Tunable Matrix Microenvironmental Cues. Advanced Healthcare Materials, 2021, 10, e2001176.	3.9	16
168	3D printing low-stiffness silicone within a curable support matrix. Additive Manufacturing, 2021, 37, 101681.	1.7	15
169	3D bioprinting of mechanically tuned bioinks derived from cardiac decellularized extracellular matrix. Acta Biomaterialia, 2021, 119, 75-88.	4.1	110
170	Beyond Polydimethylsiloxane: Alternative Materials for Fabrication of Organ-on-a-Chip Devices and Microphysiological Systems. ACS Biomaterials Science and Engineering, 2021, 7, 2880-2899.	2.6	149
171	A nonlinear visco-poroelasticity model for transversely isotropic gels. Meccanica, 2021, 56, 1483-1504.	1.2	5
172	Stepwise Cross-Linking of Fibroin and Hyaluronic for 3D Printing Flexible Scaffolds with Tunable Mechanical Properties. ACS Biomaterials Science and Engineering, 2021, 7, 916-925.	2.6	7
173	Binder-free 3D printing of covalent organic framework (COF) monoliths for CO2 adsorption. Chemical Engineering Journal, 2021, 403, 126333.	6.6	78
174	Cardiac Surgery â€“ A brief history of the future. International Journal of Cardiology, 2021, 323, 23-25.	0.8	3
175	Recyclable thermosetting polymers for digital light processing 3D printing. Materials and Design, 2021, 197, 109189.	3.3	74
176	Trends in 3D bioprinting for esophageal tissue repair and reconstruction. Biomaterials, 2021, 267, 120465.	5.7	22
177	Bioinspired mineralized collagen scaffolds for bone tissue engineering. Bioactive Materials, 2021, 6, 1491-1511.	8.6	161
178	Fabrication of centimeter-sized 3D constructs with patterned endothelial cells through assembly of cell-laden microbeads as a potential bone graft. Acta Biomaterialia, 2021, 121, 204-213.	4.1	11
179	3D bioprinting of a biomimetic meniscal scaffold for application in tissue engineering. Bioactive Materials, 2021, 6, 1711-1726.	8.6	61
180	Advances in 3D bioprinting technology for cardiac tissue engineering and regeneration. Bioactive Materials, 2021, 6, 1388-1401.	8.6	90

#	Article	IF	Citations
181	Digitally Fabricated and Naturally Augmented In Vitro Tissues. Advanced Healthcare Materials, 2021, 10, e2001253.	3.9	2
182	Adaptable hydrogel with reversible linkages for regenerative medicine: Dynamic mechanical microenvironment for cells. Bioactive Materials, 2021, 6, 1375-1387.	8.6	90
183	Affordable, high-resolution bioprinting with embedded concentration gradients. Bioprinting, 2021, 21, e00113.	2.9	14
184	3D Bioprinting using UNIversal Orthogonal Network (UNION) Bioinks. Advanced Functional Materials, 2021, 31, 2007983.	7.8	55
185	3D printed collagen structures at low concentrations supported by jammed microgels. Bioprinting, 2021, 21, e00121.	2.9	32
186	High-Resolution Novel Indirect Bioprinting of Low-Viscosity Cell-Laden Hydrogels via Model-Support Bioink Interaction. 3D Printing and Additive Manufacturing, 2021, 8, 69-78.	1.4	12
187	Reprintable Polymers for Digital Light Processing 3D Printing. Advanced Functional Materials, 2021, 31, 2007173.	7.8	38
188	Construction of a Novel In Vitro Atherosclerotic Model from Geometryâ€Tunable Artery Equivalents Engineered via Inâ€Bath Coaxial Cell Printing. Advanced Functional Materials, 2021, 31, 2008878.	7.8	51
189	Recent advances in 3D bioprinting of vascularized tissues. Materials and Design, 2021, 199, 109398.	3.3	65
190	In vitro generation of self-renewing human intestinal epithelia over planar and shaped collagen hydrogels. Nature Protocols, 2021, 16, 352-382.	5.5	41
191	Synthetic hydrogels: Synthesis, novel trends, and applications. Journal of Applied Polymer Science, 2021, 138, 50376.	1.3	187
192	Composable microfluidic spinning platforms for facile production of biomimetic perfusable hydrogel microtubes. Nature Protocols, 2021, 16, 937-964.	5.5	35
193	Biomaterials and 3D Bioprinting Strategies to Model Glioblastoma and the Bloodâ€"Brain Barrier. Advanced Materials, 2021, 33, e2004776.	11.1	66
194	Designing Biomaterial Platforms for Cardiac Tissue and Disease Modeling. Advanced NanoBiomed Research, 2021, 1, 2000022.	1.7	11
195	Recent progress in extrusion 3D bioprinting of hydrogel biomaterials for tissue regeneration: a comprehensive review with focus on advanced fabrication techniques. Biomaterials Science, 2021, 9, 535-573.	2.6	206
196	Mechanics of unusual soft network materials with rotatable structural nodes. Journal of the Mechanics and Physics of Solids, 2021, 146, 104210.	2.3	65
197	Methods and materials for additive manufacturing: A critical review on advancements and challenges. Thin-Walled Structures, 2021, 159, 107228.	2.7	129
198	Recapitulating macro-scale tissue self-organization through organoid bioprinting. Nature Materials, 2021, 20, 22-29.	13.3	279

#	Article	IF	Citations
199	Three-dimensional bio-printing of primary human hepatocellular carcinoma for personalized medicine. Biomaterials, 2021, 265, 120416.	5.7	74
200	Microfluidic Biomaterials. Advanced Healthcare Materials, 2021, 10, e2001028.	3.9	18
201	Next-generation tissue-engineered heart valves with repair, remodelling and regeneration capacity. Nature Reviews Cardiology, 2021, 18, 92-116.	6.1	128
202	Nanopharmaceutical-based regenerative medicine: a promising therapeutic strategy for spinal cord injury. Journal of Materials Chemistry B, 2021, 9, 2367-2383.	2.9	7
203	Tunable Protein Hydrogels: Present State and Emerging Development. Advances in Biochemical Engineering/Biotechnology, 2021, 178, 63-97.	0.6	4
204	Advances in Engineering Human Tissue Models. Frontiers in Bioengineering and Biotechnology, 2020, 8, 620962.	2.0	72
205	Understanding and treating paediatric hearing impairment. EBioMedicine, 2021, 63, 103171.	2.7	8
206	Hydrogel-derived luminescent scaffolds for biomedical applications. Materials Chemistry Frontiers, 2021, 5, 3524-3548.	3.2	12
207	Growing silk fibroin in advanced materials for food security. MRS Communications, 2021, 11, 31-45.	0.8	11
208	3D bio-printed biphasic scaffolds with dual modification of silk fibroin for the integrated repair of osteochondral defects. Biomaterials Science, 2021, 9, 4891-4903.	2.6	35
209	Synthesis and Assembly of Recombinant Collagen. Methods in Molecular Biology, 2021, 2347, 83-96.	0.4	1
210	Living Materials for Regenerative Medicine. Engineered Regeneration, 2021, 2, 96-104.	3.0	43
211	Synthetic polymer-derived single-network inks/bioinks for extrusion-based 3D printing towards bioapplications. Materials Advances, 2021, 2, 6928-6941.	2.6	9
212	3D printing of highly stretchable hydrogel with diverse UV curable polymers. Science Advances, 2021, 7, .	4.7	233
213	Extrusion-Based Additive Manufacturing Techniques for Biomedical Applications. , 2021, , 1101-1111.		0
214	Printing the Pathway Forward in Bone Metastatic Cancer Research: Applications of 3D Engineered Models and Bioprinted Scaffolds to Recapitulate the Boneâ€“Tumor Niche. Cancers, 2021, 13, 507.	1.7	20
215	Constitutive Equations Developed for Modeling of Heat Conduction in Bio-tissues: A Review. International Journal of Thermophysics, 2021, 42, 1.	1.0	8
216	Trends in Bio-Derived Biomaterials in Tissue Engineering. , 2021, , 163-213.		4

#	Article	IF	Citations
217	Current standards and ethical landscape of engineered tissuesâ€"3D bioprinting perspective. Journal of Tissue Engineering, 2021, 12, 204173142110276.	2.3	48
218	Applications of 3D bioprinting in tissue engineering: advantages, deficiencies, improvements, and future perspectives. Journal of Materials Chemistry B, 2021, 9, 5385-5413.	2.9	51
219	3D bioprinting in cardiac tissue engineering. Theranostics, 2021, 11, 7948-7969.	4.6	56
220	3D Scaffolds to Model the Hematopoietic Stem Cell Niche: Applications and Perspectives. Materials, 2021, 14, 569.	1.3	23
221	Stable quantum dots/polymer matrix and their versatile 3D printing frameworks. Journal of Materials Chemistry C, 2021, 9, 7194-7199.	2.7	8
222	Models of kidney glomerulus derived from human-induced pluripotent stem cells. , 2021, , 329-370.		1
223	Toward Biofabrication of Resorbable Implants Consisting of a Calcium Phosphate Cement and Fibrinâ€"A Characterization In Vitro and In Vivo. International Journal of Molecular Sciences, 2021, 22, 1218.	1.8	20
224	Direct coherent multi-ink printing of fabric supercapacitors. Science Advances, 2021, 7, .	4.7	95
225	Extracellular scaffold design for ultra-soft microtissue engineering. Light Advanced Manufacturing, 2021, 2, 1-13.	2.2	3
226	3D-Bioprinting. Learning Materials in Biosciences, 2021, , 201-232.	0.2	1
227	3D Modeling and Printing in Congenital Heart Surgery: Entering the Stage of Maturation. Frontiers in Pediatrics, 2021, 9, 621672.	0.9	46
228	3D Patterning within Hydrogels for the Recreation of Functional Biological Environments. Advanced Functional Materials, 2021, 31, 2009574.	7.8	35
229	Harnessing Endogenous Stimuli for Responsive Materials in Theranostics. ACS Nano, 2021, 15, 2068-2098.	7.3	117
230	Bioprinting of Cartilaginous Auricular Constructs Utilizing an Enzymatically Crosslinkable Bioink. Advanced Functional Materials, 2021, 31, 2008261.	7.8	25
231	Trends in Double Networks as Bioprintable and Injectable Hydrogel Scaffolds for Tissue Regeneration. ACS Biomaterials Science and Engineering, 2021, 7, 4077-4101.	2.6	37
232	Surface-Directed Mineralization of Fibrous Collagen Scaffolds in Simulated Body Fluid for Tissue Engineering Applications. ACS Applied Bio Materials, 2021, 4, 2514-2522.	2.3	8
233	Progress in cardiovascular bioprinting. Artificial Organs, 2021, 45, 652-664.	1.0	8
235	Fast Stereolithography Printing of Largeâ€Scale Biocompatible Hydrogel Models. Advanced Healthcare Materials, 2021, 10, e2002103.	3.9	48

#	Article	IF	Citations
236	Engineering and Assessing Cardiac Tissue Complexity. International Journal of Molecular Sciences, 2021, 22, 1479.	1.8	13
237	A Rapid Crosslinkable Maleimide-Modified Hyaluronic Acid and Gelatin Hydrogel Delivery System for Regenerative Applications. Gels, 2021, 7, 13.	2.1	13
238	Direct ink writing techniques for in situ gelation and solidification. MRS Communications, 2021, 11, 106-121.	0.8	25
239	Bioprinting of human nasoseptal chondrocytesâ€laden collagen hydrogel for cartilage tissue engineering. FASEB Journal, 2021, 35, e21191.	0.2	22
240	Multiphotonâ€Guided Creation of Complex Organâ€Specific Microvasculature. Advanced Healthcare Materials, 2021, 10, e2100031.	3.9	34
241	Freeform Polymer Precipitation in Microparticulate Gels. ACS Applied Polymer Materials, 2021, 3, 908-919.	2.0	12
243	Bioprinting 3D human cardiac tissue chips using the pin type printer â€˜microscopic painting deviceâ€™ and analysis for cardiotoxicity. Biomedical Materials (Bristol), 2021, 16, 025017.	1.7	7
244	Natural Biomaterials and Their Use as Bioinks for Printing Tissues. Bioengineering, 2021, 8, 27.	1.6	93
245	Collagen-Based Thiolâ€"Norbornene Photoclick Bio-Ink with Excellent Bioactivity and Printability. ACS Applied Materials & Interfaces, 2021, 13, 7037-7050.	4.0	46
247	The Art of Engineering Biomimetic Cellular Microenvironments. ACS Biomaterials Science and Engineering, 2021, 7, 3997-4008.	2.6	12
248	Engineering Three-Dimensional Vascularized Cardiac Tissues. Tissue Engineering - Part B: Reviews, 2022, 28, 336-350.	2.5	12
249	Oneâ€Step Formation of Proteinâ€Based Tubular Structures for Functional Devices and Tissues. Advanced Healthcare Materials, 2021, 10, e2001746.	3.9	5
250	Three-Dimensional Printable, Extremely Soft, Stretchable, and Reversible Elastomers from Molecular Architecture-Directed Assembly. Chemistry of Materials, 2021, 33, 2436-2445.	3.2	16
251	<i>In Vitro</i>Methods to Model Cardiac Mechanobiology in Health and Disease. Tissue Engineering - Part C: Methods, 2021, 27, 139-151.	1.1	21
252	Poloxamer/Poly(ethylene glycol) Self-Healing Hydrogel for High-Precision Freeform Reversible Embedding of Suspended Hydrogel. Langmuir, 2021, 37, 4154-4162.	1.6	17
253	The rheology of direct and suspended extrusion bioprinting. APL Bioengineering, 2021, 5, 011502.	3.3	129
254	Cardiac Regeneration: the Heart of the Issue. Current Transplantation Reports, 2021, 8, 67-75.	0.9	5
256	Oneâ€Step 3D Printing of Heart Patches with Builtâ€In Electronics for Performance Regulation. Advanced Science, 2021, 8, 2004205.	5.6	39

#	Article	IF	Citations
257	Complex 3D bioprinting methods. APL Bioengineering, 2021, 5, 011508.	3.3	47
258	Microfluidic-assisted bioprinting of tissues and organoids at high cell concentrations. Biofabrication, 2021, 13, 025006.	3.7	15
259	Three-Dimensional Bioprinting of Anatomically Realistic Tissue Constructs for Disease Modeling and Drug Testing. Tissue Engineering - Part C: Methods, 2021, 27, 225-231.	1.1	5
260	Emergence of FRESH 3D printing as a platform for advanced tissue biofabrication. APL Bioengineering, 2021, 5, 010904.	3.3	115
261	3D Tissue and Organ Printingâ€"Hope and Reality. Advanced Science, 2021, 8, 2003751.	5.6	54
262	3D Bioprinted Cardiac Tissues and Devices for Tissue Maturation. Cells Tissues Organs, 2022, , 90-103.	1.3	5
263	New Modalities of 3D Pluripotent Stem Cell-Based Assays in Cardiovascular Toxicity. Frontiers in Pharmacology, 2021, 12, 603016.	1.6	4
264	Recent developments in sustainably sourced protein-based biomaterials. Biochemical Society Transactions, 2021, 49, 953-964.	1.6	18
265	Minimalist Tissue Engineering Approaches Using Low Materialâ€Based Bioengineered Systems. Advanced Healthcare Materials, 2021, 10, e2002110.	3.9	16
266	Bioprinted Vascularized Mature Adipose Tissue with Collagen Microfibers for Soft Tissue Regeneration. Cyborg and Bionic Systems, 2021, 2021, .	3.7	30
267	From Protein Building Blocks to Functional Materials. ACS Nano, 2021, 15, 5819-5837.	7.3	83
268	Valve-based consecutive bioprinting method for multimaterial tissue-like constructs with controllable interfaces. Biofabrication, 2021, 13, 035001.	3.7	18
269	A photocurable hybrid chitosan/acrylamide bioink for DLP based 3D bioprinting. Materials and Design, 2021, 202, 109588.	3.3	62
270	Vascular Patterning as Integrative Readout of Complex Molecular and Physiological Signaling by VESsel GENeration Analysis. Journal of Vascular Research, 2021, 58, 1-24.	0.6	9
271	Applications of Engineering Techniques in Microvasculature Design. Frontiers in Cardiovascular Medicine, 2021, 8, 660958.	1.1	1
272	Vascularisation of pluripotent stem cellâ€"derived myocardium: biomechanical insights for physiological relevance in cardiac tissue engineering. Pflugers Archiv European Journal of Physiology, 2021, 473, 1117-1136.	1.3	7
273	Printability in extrusion bioprinting. Biofabrication, 2021, 13, 033001.	3.7	74
274	Additive manufacturing of structural materials. Materials Science and Engineering Reports, 2021, 145, 100596.	14.8	254

#	Article	IF	Citations
275	Soft Materials by Design: Unconventional Polymer Networks Give Extreme Properties. Chemical Reviews, 2021, 121, 4309-4372.	23.0	472
276	3D Printing Hydrogel-Based Soft and Biohybrid Actuators: A Mini-Review on Fabrication Techniques, Applications, and Challenges. Frontiers in Robotics and AI, 2021, 8, 673533.	2.0	27
277	Research on Embedded 3D Printing for Magnetic Soft Robots. , 2021, , .		0
278	Low-temperature 3D printing of collagen and chitosan composite for tissue engineering. Materials Science and Engineering C, 2021, 123, 111963.	3.8	64
279	Recent advances in 3D printing with protein-based inks. Progress in Polymer Science, 2021, 115, 101375.	11.8	74
280	3D tumor modelÂâ€" a platform for anticancer drug development. ChemistrySelect, 2023, 8, 1835-1860.	0.7	0
281	Color-Changeable Four-Dimensional Printing Enabled with Ultraviolet-Curable and Thermochromic Shape Memory Polymers. ACS Applied Materials & Interfaces, 2021, 13, 18120-18127.	4.0	39
283	Direct-ink-write printing of hydrogels using dilute inks. IScience, 2021, 24, 102319.	1.9	16
284	A high performance open-source syringe extruder optimized for extrusion and retraction during FRESH 3D bioprinting. HardwareX, 2021, 9, e00170.	1.1	36
285	The Technique of Thyroid Cartilage Scaffold Support Formation for Extrusion-Based Bioprinting. International Journal of Bioprinting, 2021, 7, 348.	1.7	10
286	Conductive Hydrogelâ€Based Electrodes and Electrolytes for Stretchable and Selfâ€Healable Supercapacitors. Advanced Functional Materials, 2021, 31, 2101303.	7.8	178
287	Recent advances in bioprinting technologies for engineering hepatic tissue. Materials Science and Engineering C, 2021, 123, 112013.	3.8	26
288	Recapitulating Cardiac Structure and Function In Vitro from Simple to Complex Engineering. Micromachines, 2021, 12, 386.	1.4	8
290	Controlling Surface-Induced Platelet Activation by Agarose and Gelatin-Based Hydrogel Films. ACS Omega, 2021, 6, 10963-10974.	1.6	14
291	Haversian bone-mimicking bioceramic scaffolds enhancing MSC-macrophage osteo-imunomodulation. Progress in Natural Science: Materials International, 2021, 31, 883-890.	1.8	5
292	Recent Advances in Cellular and Molecular Bioengineering for Building and Translation of Biological Systems. Cellular and Molecular Bioengineering, 2021, 14, 293-308.	1.0	2
293	Three-dimensional bioprinting of artificial ovaries by an extrusion-based method using gelatin-methacryloyl bioink. Climacteric, 2022, 25, 170-178.	1.1	32
294	Biomimetic microsystems for cardiovascular studies. American Journal of Physiology - Cell Physiology, 2021, 320, C850-C872.	2.1	7

#	Article	IF	Citations
295	3D bioprinting of multicellular scaffolds for osteochondral regeneration. Materials Today, 2021, 49, 68-84.	8.3	34
296	3D Bioprinting of Vascularized Tissues for in vitro and in vivo Applications. Frontiers in Bioengineering and Biotechnology, 2021, 9, 664188.	2.0	48
297	Recent advances in bioprinting technologies for engineering cardiac tissue. Materials Science and Engineering C, 2021, 124, 112057.	3.8	35
298	High-resolution 3D fluorescent imaging of intact tissues. , 2021, 1, 1-14.		0
299	3D Bioprinting-Based Vascularized Tissue Models Mimicking Tissue-Specific Architecture and Pathophysiology for in vitro Studies. Frontiers in Bioengineering and Biotechnology, 2021, 9, 685507.	2.0	25
300	Cardiac Organoids to Model and Heal Heart Failure and Cardiomyopathies. Biomedicines, 2021, 9, 563.	1.4	10
301	The emerging technology of biohybrid micro-robots: a review. Bio-Design and Manufacturing, 2022, 5, 107-132.	3.9	38
302	Optimization of Freeze-FRESH Methodology for 3D Printing of Microporous Collagen Constructs. 3D Printing and Additive Manufacturing, 2022, 9, 411-424.	1.4	3
303	Injectability of Biosynthetic Hydrogels: Consideration for Minimally Invasive Surgical Procedures and 3D Bioprinting. Advanced Functional Materials, 2021, 31, 2100628.	7.8	24
304	Cardiac organoid â€" a promising perspective of preclinical model. Stem Cell Research and Therapy, 2021, 12, 272.	2.4	43
305	Collagenâ€based biomaterials for biomedical applications. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2021, 109, 1986-1999.	1.6	120
306	3D bioprinting of prevascularised implants for the repair of critically-sized bone defects. Acta Biomaterialia, 2021, 126, 154-169.	4.1	71
307	Noninvasive Three-Dimensional <i>In Situ</i> and <i>In Vivo</i> Characterization of Bioprinted Hydrogel Scaffolds Using the X-ray Propagation-Based Imaging Technique. ACS Applied Materials & Interfaces, 2021, 13, 25611-25623.	4.0	20
308	Lightâ€Activated Decellularized Extracellular Matrixâ€Based Bioinks for Volumetric Tissue Analogs at the Centimeter Scale. Advanced Functional Materials, 2021, 31, 2011252.	7.8	64
309	A thermo-responsive collagen-nanocellulose hydrogel for the growth of intestinal organoids. Materials Science and Engineering C, 2021, 124, 112051.	3.8	32
310	Extracellular Matrix by Design: Native Biomaterial Fabrication and Functionalization to Boost Tissue Regeneration. Regenerative Engineering and Translational Medicine, 2022, 8, 55-74.	1.6	4
311	3-Dimensional Bioprinting of Cardiovascular Tissues. JACC Basic To Translational Science, 2021, 6, 467-482.	1.9	11
312	3D bioprinting of cardiac tissue: current challenges and perspectives. Journal of Materials Science: Materials in Medicine, 2021, 32, 54.	1.7	29

#	Article	IF	Citations
313	Processing variables of direct-write, near-field electrospinning impact size and morphology of gelatin fibers. Biomedical Materials (Bristol), 2021, 16, 045017.	1.7	5
314	Modern World Applications for Nano-Bio Materials: Tissue Engineering and COVID-19. Frontiers in Bioengineering and Biotechnology, 2021, 9, 597958.	2.0	21
315	Three-Dimensional Cell Printed Lock-Key Structure for Oral Soft and Hard Tissue Regeneration. Tissue Engineering - Part A, 2022, 28, 13-26.	1.6	5
316	Printing between the Lines: Intricate Biomaterial Structures Fabricated via Negative Embodied Sacrificial Template 3D (NEST3D) Printing. Advanced Materials Technologies, 2021, 6, 2100189.	3.0	14
317	Covalently Crosslinked Hydrogels via Stepâ€Growth Reactions: Crosslinking Chemistries, Polymers, and Clinical Impact. Advanced Materials, 2021, 33, e2006362.	11.1	95
318	Perfusion and endothelialization of engineered tissues with patterned vascular networks. Nature Protocols, 2021, 16, 3089-3113.	5.5	29
319	Biofabrication of tissue engineering vascular systems. APL Bioengineering, 2021, 5, 021507.	3.3	19
320	Support Diminution Design for Layered Manufacturing of Manifold Surface Based on Variable Orientation Tracking. 3D Printing and Additive Manufacturing, 2021, 8, 149-167.	1.4	11
321	Static-state particle fabrication via rapid vitrification of a thixotropic medium. Nature Communications, 2021, 12, 3768.	5.8	4
322	Imperfection sensitivity of mechanical properties in soft network materials with horseshoe microstructures. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 1050-1062.	1.5	5
323	3D printing in biomedical engineering: Processes, materials, and applications. Applied Physics Reviews, 2021, 8, .	5.5	46
324	Human iPSCs and Genome Editing Technologies for Precision Cardiovascular Tissue Engineering. Frontiers in Cell and Developmental Biology, 2021, 9, 639699.	1.8	16
325	A Robust Protocol for Decellularized Human Lung Bioink Generation Amenable to 2D and 3D Lung Cell Culture. Cells, 2021, 10, 1538.	1.8	22
326	Vascularization strategies for tissue engineering for tracheal reconstruction. Regenerative Medicine, 2021, 16, 549-566.	0.8	8
327	Strong Tough Polyampholyte Hydrogels via the Synergistic Effect of Ionic and Metalâ€"Ligand Bonds. Advanced Functional Materials, 2021, 31, 2103917.	7.8	97
328	Tunable Human Myocardium Derived Decellularized Extracellular Matrix for 3D Bioprinting and Cardiac Tissue Engineering. Gels, 2021, 7, 70.	2.1	51
329	The Epic of In Vitro Meat Productionâ€"A Fiction into Reality. Foods, 2021, 10, 1395.	1.9	24
330	Application and research progress of <i>in vitro</i> liver cancer cell culture models. World Chinese Journal of Digestology, 2021, 29, 563-570.	0.0	1

#	Article	IF	Citations
331	Engineered neuromuscular actuators for medicine, meat, and machines. MRS Bulletin, 2021, 46, 522-533.	1.7	2
333	Novel antimicrobial materials designed for the 3D printing of medical devices used during the COVID-19 crisis. Rapid Prototyping Journal, 2021, 27, 890-904.	1.6	8
334	3D printing to innovate biopolymer materials for demanding applications: A review. Materials Today Chemistry, 2021, 20, 100459.	1.7	58
335	Printing 3D vagina tissue analogues with vagina decellularized extracellular matrix bioink. International Journal of Biological Macromolecules, 2021, 180, 177-186.	3.6	28
336	Harnessing organs-on-a-chip to model tissue regeneration. Cell Stem Cell, 2021, 28, 993-1015.	5.2	36
337	A Covalently Crosslinked Ink for Multimaterials Dropâ€onâ€Demand 3D Bioprinting of 3D Cell Cultures. Macromolecular Bioscience, 2021, 21, e2100125.	2.1	25
338	Blood Flow Within Bioengineered 3D Printed Vascular Constructs Using the Porcine Model. Frontiers in Cardiovascular Medicine, 2021, 8, 629313.	1.1	3
339	Design, fabrication and applications of soft network materials. Materials Today, 2021, 49, 324-350.	8.3	36
340	Next generation of heart regenerative therapies: progress and promise of cardiac tissue engineering. Npj Regenerative Medicine, 2021, 6, 30.	2.5	49
341	Fabricating hydrogels to mimic biological tissues of complex shapes and high fatigue resistance. Matter, 2021, 4, 1935-1946.	5.0	78
342	Embedded multimaterial bioprinting platform for biofabrication of biomimetic vascular structures. Journal of Materials Research, 2021, 36, 3851-3864.	1.2	7
343	3D Printing: Advancement in Biogenerative Engineering to Combat Shortage of Organs and Bioapplicable Materials. Regenerative Engineering and Translational Medicine, 2022, 8, 173-199.	1.6	25
344	3D-Printed Collagen-Based Waveform Microfibrous Scaffold for Periodontal Ligament Reconstruction. International Journal of Molecular Sciences, 2021, 22, 7725.	1.8	12
345	Microfluidic models of the human circulatory system: versatile platforms for exploring mechanobiology and disease modeling. Biophysical Reviews, 2021, 13, 769-786.	1.5	17
346	Affinity-bound growth factor within sulfated interpenetrating network bioinks for bioprinting cartilaginous tissues. Acta Biomaterialia, 2021, 128, 130-142.	4.1	56
347	Dynamic loading of human engineered heart tissue enhances contractile function and drives a desmosome-linked disease phenotype. Science Translational Medicine, 2021, 13, .	5.8	48
348	Hierarchical macro-microporous WPU-ECM scaffolds combined with Microfracture Promote in Situ Articular Cartilage Regeneration in Rabbits. Bioactive Materials, 2021, 6, 1932-1944.	8.6	36
350	Structureâ€"Property Relationships of Elastin-like Polypeptides: A Review of Experimental and Computational Studies. ACS Biomaterials Science and Engineering, 2021, , .	2.6	5

#	Article	IF	Citations
351	3D Bioprinting of Nature-Inspired Hydrogel Inks Based on Synthetic Polymers. ACS Applied Polymer Materials, 2021, 3, 3685-3701.	2.0	20
353	Recent Advances in Microfluidic Platforms for Programming Cellâ€Based Living Materials. Advanced Materials, 2021, 33, e2005944.	11.1	26
354	Natural and Synthetic Bioinks for 3D Bioprinting. Advanced NanoBiomed Research, 2021, 1, 2000097.	1.7	60
355	Transcending toward Advanced 3D-Cell Culture Modalities: A Review about an Emerging Paradigm in Translational Oncology. Cells, 2021, 10, 1657.	1.8	15
357	Highlights on Advancing Frontiers in Tissue Engineering. Tissue Engineering - Part B: Reviews, 2022, 28, 633-664.	2.5	44
358	Bioprinting Marches Forward With New Technology. IEEE Pulse, 2021, 12, 11-16.	0.1	0
359	Biomimetic bioinks of nanofibrillar polymeric hydrogels for 3D bioprinting. Nano Today, 2021, 39, 101180.	6.2	9
360	3D bioprinted and integrated platforms for cardiac tissue modeling and drug testing. Essays in Biochemistry, 2021, 65, 545-554.	2.1	7
362	Building new cardiac vasculature and myocardium: where are we at?. Current Opinion in Cardiology, 2021, 36, 728-734.	0.8	2
363	Bioengineering approaches to treat the failing heart: from cell biology to 3D printing. Nature Reviews Cardiology, 2022, 19, 83-99.	6.1	36
364	Engineered Vasculature for Organ-on-a-Chip Systems. Engineering, 2022, 9, 131-147.	3.2	22
365	Reconstructing the heart using iPSCs: Engineering strategies and applications. Journal of Molecular and Cellular Cardiology, 2021, 157, 56-65.	0.9	41
366	Rapid Formation of Multicellular Spheroids in Boundaryâ€Driven Acoustic Microstreams. Small, 2021, 17, e2101931.	5.2	18
367	Application of Collagen I and IV in Bioengineering Transparent Ocular Tissues. Frontiers in Surgery, 2021, 8, 639500.	0.6	16
368	Bulk Ferroelectric Metamaterial with Enhanced Piezoelectric and Biomimetic Mechanical Properties from Additive Manufacturing. ACS Nano, 2021, 15, 14903-14914.	7.3	21
369	Computed Tomographyâ€"Derived 3DÂModeling to Guide Sizing and Planning of Transcatheter Mitral Valve Interventions. JACC: Cardiovascular Imaging, 2021, 14, 1644-1658.	2.3	16
370	Green composites in bone tissue engineering. Emergent Materials, 2022, 5, 603-620.	3.2	11
371	Introduction to bioprinting of <i>in vitro</i> cancer models. Essays in Biochemistry, 2021, 65, 603-610.	2.1	4

#	Article	IF	Citations
373	3D bioprinting: novel approaches for engineering complex human tissue equivalents and drug testing. Essays in Biochemistry, 2021, 65, 417-427.	2.1	12
374	Building Organs Using Tissue-Specific Microenvironments: Perspectives from a Bioprosthetic Ovary. Trends in Biotechnology, 2021, 39, 824-837.	4.9	7
376	3D Bioprinting of Miniaturized Tissues Embedded in Selfâ€Assembled Nanoparticleâ€Based Fibrillar Platforms. Advanced Functional Materials, 2021, 31, .	7.8	21
377	Seeding A Growing Organ. Trends in Biotechnology, 2021, 39, 753-754.	4.9	3
378	Sandwichâ€Like Gelatin/Polycaprolactone/Polyvinyl Pyrrolidone 3D Model with Significantly Improved Cartilage Cells Adhesion and Regeneration. Macromolecular Materials and Engineering, 2021, 306, 2100338.	1.7	3
379	3D electron-beam writing at sub-15â€‰nm resolution using spider silk as a resist. Nature Communications, 2021, 12, 5133.	5.8	22
380	Ti₃C₂T_{<i>x</i>} MXene Flakes for Optical Control of Neuronal Electrical Activity. ACS Nano, 2021, 15, 14662-14671.	7.3	32
381	Engineered whole cut meat-like tissue by the assembly of cell fibers using tendon-gel integrated bioprinting. Nature Communications, 2021, 12, 5059.	5.8	141
382	Multimaterial bioprinting and combination of processing techniques towards the fabrication of biomimetic tissues and organs. Biofabrication, 2021, 13, 042002.	3.7	42
383	On the progress of 3D-printed hydrogels for tissue engineering. MRS Communications, 2021, 11, 539-553.	0.8	71
385	Current Insights into Collagen Type I. Polymers, 2021, 13, 2642.	2.0	55
386	Design and Fabrication of Sodium Alginate/Carboxymethyl Cellulose Sodium Blend Hydrogel for Artificial Skin. Gels, 2021, 7, 115.	2.1	35
387	3D Printing of Microgel Scaffolds with Tunable Void Fraction to Promote Cell Infiltration. Advanced Healthcare Materials, 2021, 10, e2100644.	3.9	71
388	Acoustic Droplet Printing Tumor Organoids for Modeling Bladder Tumor Immune Microenvironment within a Week. Advanced Healthcare Materials, 2021, 10, e2101312.	3.9	27
389	Extrusion-based 3D (Bio)Printed Tissue Engineering Scaffolds: Processâ€“Structureâ€“Quality Relationships. ACS Biomaterials Science and Engineering, 2021, 7, 4694-4717.	2.6	12
390	Bioengineering of a scaffold-less three-dimensional tissue using net mould. Biofabrication, 2021, 13, 045019.	3.7	7
391	3D Bioprinting of Engineered Tissue Flaps with Hierarchical Vessel Networks (VesselNet) for Direct Hostâ€Toâ€Implant Perfusion. Advanced Materials, 2021, 33, e2102661.	11.1	65
392	Shaping collagen for engineering hard tissues: Towards a printomics approach. Acta Biomaterialia, 2021, 131, 41-61.	4.1	27

#	Article	IF	Citations
393	Bioprinting as a Sociotechnical Project: Imaginaries, Promises and Futures. Science As Culture, 2021, 30, 556-580.	2.4	4
394	3â€Dimensional Printing of Hydrogelâ€Based Nanocomposites: A Comprehensive Review on the Technology Description, Properties, and Applications. Advanced Engineering Materials, 2021, 23, 2100477.	1.6	25
395	Three-Dimensional Printing of Patient-Specific Heart Valves: Separating Facts From Fiction and Myth From Reality. Journal of Cardiothoracic and Vascular Anesthesia, 2022, 36, 2643-2655.	0.6	2
396	CHIR99021 Promotes hiPSCâ€Derived Cardiomyocyte Proliferation in Engineered 3D Microtissues. Advanced Healthcare Materials, 2021, 10, e2100926.	3.9	14
397	Fluid Bath-Assisted 3D Printing for Biomedical Applications: From Pre- to Postprinting Stages. ACS Biomaterials Science and Engineering, 2021, 7, 4736-4756.	2.6	28
398	Soft-tissue-mimicking using silicones for the manufacturing of soft phantoms by fresh 3D printing. Rapid Prototyping Journal, 2022, 28, 285-296.	1.6	4
399	What can biofabrication do for space and what can space do for biofabrication?. Trends in Biotechnology, 2022, 40, 398-411.	4.9	23
400	Comparison of three different acidic solutions in tendon decellularized extracellular matrix bio-ink fabrication for 3D cell printing. Acta Biomaterialia, 2021, 131, 262-275.	4.1	25
401	High-Resolution Bioprinting of Recombinant Human Collagen Type III. Polymers, 2021, 13, 2973.	2.0	22
402	Design and Production of Customizable and Highly Aligned Fibrillar Collagen Scaffolds. ACS Biomaterials Science and Engineering, 2021, , .	2.6	2
403	Tackling Current Biomedical Challenges With Frontier Biofabrication and Organ-On-A-Chip Technologies. Frontiers in Bioengineering and Biotechnology, 2021, 9, 732130.	2.0	11
404	Academic Insights and Perspectives in 3D Printing: A Bibliometric Review. Applied Sciences (Switzerland), 2021, 11, 8298.	1.3	11
405	Advances and challenges in bioprinting of biological tissues and organs. Artificial Organs, 2021, 45, 1441-1445.	1.0	3
406	3D Printing of Hydrogels for Stretchable Ionotronic Devices. Advanced Functional Materials, 2021, 31, 2107437.	7.8	70
407	Organ-on-a-chip platforms for evaluation of environmental nanoparticle toxicity. Bioactive Materials, 2021, 6, 2801-2819.	8.6	37
408	Progress of 3D Bioprinting in Organ Manufacturing. Polymers, 2021, 13, 3178.	2.0	24
409	Stem cell-based vascularization of microphysiological systems. Stem Cell Reports, 2021, 16, 2058-2075.	2.3	12
410	Engineering strategies to capture the biological and biophysical tumor microenvironment in vitro. Advanced Drug Delivery Reviews, 2021, 176, 113852.	6.6	13

#	Article	IF	Citations
411	Organ-on-a-chip systems for vascular biology. Journal of Molecular and Cellular Cardiology, 2021, 159, 1-13.	0.9	31
412	Advanced preclinical models for evaluation of drug-induced liver injury â€" consensus statement by the European Drug-Induced Liver Injury Network [PRO-EURO-DILI-NET]. Journal of Hepatology, 2021, 75, 935-959.	1.8	66
413	Biofabrication of natural hydrogels for cardiac, neural, and bone Tissue engineering Applications. Bioactive Materials, 2021, 6, 3904-3923.	8.6	94
414	â€œBarcodeâ€•cell sensor microfluidic system: Rapid and sample-to-answer antimicrobial susceptibility testing applicable in resource-limited conditions. Biosensors and Bioelectronics, 2021, 192, 113516.	5.3	4
415	Research progress in decellularized extracellular matrix-derived hydrogels. Regenerative Therapy, 2021, 18, 88-96.	1.4	74
416	A review of strategies for development of tissue engineered meniscal implants. Biomaterials and Biosystems, 2021, 4, 100026.	1.0	12
417	Immune response against the biomaterials used in 3D bioprinting of organs. Transplant Immunology, 2021, 69, 101446.	0.6	13
418	Multimaterial bioprinting approaches and their implementations for vascular and vascularized tissues. Bioprinting, 2021, 24, e00159.	2.9	13
419	3D models of dilated cardiomyopathy: Shaping the chemical, physical and topographical properties of biomaterials to mimic the cardiac extracellular matrix. Bioactive Materials, 2022, 7, 275-291.	8.6	11
420	Mechanically-reinforced and highly adhesive decellularized tissue-derived hydrogel for efficient tissue repair. Chemical Engineering Journal, 2022, 427, 130926.	6.6	25
421	Three-dimensional bioprinting in medical surgery. , 2022, , 27-75.		0
422	Heterotypic tumor models through freeform printing into photostabilized granular microgels. Biomaterials Science, 2021, 9, 4496-4509.	2.6	23
423	Three-Dimensional Printing to Build Fibrous Protein Architectures. Methods in Molecular Biology, 2021, 2347, 177-189.	0.4	0
424	Digital Transformation in Materials Science: A Paradigm Change in Material's Development. Advanced Materials, 2021, 33, e2004940.	11.1	37
425	Characterization of Bioinks for 3D Bioprinting. Gels Horizons: From Science To Smart Materials, 2021, , 27-77.	0.3	0
426	Conformal single cell hydrogel coating with electrically induced tip streaming of an AC cone. Biomaterials Science, 2021, 9, 3284-3292.	2.6	7
427	Additive manufacturing of biomaterials. Advances in Chemical Engineering, 2021, , 233-260.	0.5	0
428	Recent advancements in cardiovascular bioprinting and bioprinted cardiac constructs. Biomaterials Science, 2021, 9, 1974-1994.	2.6	32

#	Article	IF	Citations
429	Cardiovascular microphysiological systems (CVMPS) for safety studies â€“ a pharma perspective. Lab on A Chip, 2021, 21, 458-472.	3.1	6
430	Manufacture of complex heart tissues: technological advancements and future directions. AIMS Bioengineering, 2021, 8, 73-92.	0.6	0
431	3D Printed Hydrogels with Aligned Microchannels to Guide Neural Stem Cell Migration. ACS Biomaterials Science and Engineering, 2021, 7, 690-700.	2.6	30
432	Synthetic Boneâ€Like Structures Through Omnidirectional Ceramic Bioprinting in Cell Suspensions. Advanced Functional Materials, 2021, 31, 2008216.	7.8	43
433	Decoding Genetics of Congenital Heart Disease Using Patient-Derived Induced Pluripotent Stem Cells (iPSCs). Frontiers in Cell and Developmental Biology, 2021, 9, 630069.	1.8	17
434	Resolution of 3D bioprinting inside bulk gel and granular gel baths. Soft Matter, 2021, 17, 8769-8785.	1.2	23
435	Direct 3D Printed Biomimetic Scaffolds Based on Hydrogel Microparticles for Cell Spheroid Growth. Advanced Functional Materials, 2020, 30, 1910573.	7.8	99
436	Passive myocardial mechanical properties: meaning, measurement, models. Biophysical Reviews, 2021, 13, 587-610.	1.5	30
437	Embedded 3D printing of multi-internal surfaces of hydrogels. Additive Manufacturing, 2020, 32, 101097.	1.7	25
438	Structure and properties of thermomechanically processed chitosan/carboxymethyl cellulose/graphene oxide polyelectrolyte complexed bionanocomposites. International Journal of Biological Macromolecules, 2020, 158, 420-429.	3.6	24
439	Multitechnology Biofabrication: A New Approach for the Manufacturing of Functional Tissue Structures?. Trends in Biotechnology, 2020, 38, 1316-1328.	4.9	68
440	The development of natural polymer scaffold-based therapeutics for osteochondral repair. Biochemical Society Transactions, 2020, 48, 1433-1445.	1.6	11
441	Biomechanical factors in three-dimensional tissue bioprinting. Applied Physics Reviews, 2020, 7, 041319.	5.5	30
442	Matrix-specific mechanism of Fe ion release from laser-generated 3D-printable nanoparticle-polymer composites and their protein adsorption properties. Nanotechnology, 2020, 31, 405703.	1.3	9
443	Aspiration-assisted bioprinting of co-cultured osteogenic spheroids for bone tissue engineering. Biofabrication, 2021, 13, 015013.	3.7	34
444	4D printing of shape memory polymer via liquid crystal display (LCD) stereolithographic 3D printing. Materials Research Express, 2020, 7, 105305.	0.8	36
445	Interdisciplinary approaches to advanced cardiovascular tissue engineering: ECM-based biomaterials, 3D bioprinting, and its assessment. Progress in Biomedical Engineering, 2020, 2, 042003.	2.8	11
451	Nonlinear Visco-Poroelasticity of Gels With Different Rheological Parts. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	1.1	13

#	Article	IF	Citations
452	Cellulose hydrogel skeleton by extrusion 3D printing of solution. Nanotechnology Reviews, 2020, 9, 345-353.	2.6	35
453	Bioprinting of Multimaterials with Computer-aided Design/Computer-aided Manufacturing. International Journal of Bioprinting, 2019, 6, 245.	1.7	24
454	Collagen as Bioink for Bioprinting: A Comprehensive Review. International Journal of Bioprinting, 2020, 6, 270.	1.7	129
455	Rational Design of a Triple-Layered Coaxial Extruder System: in silico and in vitro Evaluations Directed Toward Optimizing Cell Viability. International Journal of Bioprinting, 2020, 6, 282.	1.7	10
456	Vascular microphysiological systems to model diseases. Cell & Gene Therapy Insights, 2020, 6, 93-102.	0.1	3
457	Freeform direct laser writing of versatile topological 3D scaffolds enabled by intrinsic support hydrogel. Materials Horizons, 2021, 8, 3334-3344.	6.4	6
458	3D Bioprinting of Cellâ€Laden Hydrogels for Improved Biological Functionality. Advanced Materials, 2022, 34, e2103691.	11.1	88
459	Digital Assembly of Spherical Viscoelastic Bioâ€Ink Particles. Advanced Functional Materials, 2022, 32, 2109004.	7.8	6
460	Fabricating Tissues In Situ with the Controlled Cellular Alignments. Advanced Healthcare Materials, 2022, 11, e2100934.	3.9	8
461	Emerging Technologies in Multiâ€Material Bioprinting. Advanced Materials, 2021, 33, e2104730.	11.1	100
462	Tissue Engineering with Mechanically Induced Solidâ€Fluid Transitions. Advanced Materials, 2022, 34, e2106149.	11.1	3
463	Bioprinting of Cartilage with Bioink Based on High-Concentration Collagen and Chondrocytes. International Journal of Molecular Sciences, 2021, 22, 11351.	1.8	18
464	A framework for developing sex-specific engineered heart models. Nature Reviews Materials, 2022, 7, 295-313.	23.3	22
465	Mussel-inspired chemistry: A promising strategy for natural polysaccharides in biomedical applications. Progress in Polymer Science, 2021, 123, 101472.	11.8	77
466	Recent Trends in Biofabrication Technologies for Studying Skeletal Muscle Tissue-Related Diseases. Frontiers in Bioengineering and Biotechnology, 2021, 9, 782333.	2.0	9
467	Generalizing hydrogel microparticles into a new class of bioinks for extrusion bioprinting. Science Advances, 2021, 7, eabk3087.	4.7	53
468	An insight on advances and applications of 3d bioprinting: A review. Bioprinting, 2021, 24, e00176.	2.9	29
469	Computational Modeling and Experimental Characterization of Extrusion Printing into Suspension Baths. Advanced Healthcare Materials, 2022, 11, e2101679.	3.9	16

#	Article	IF	Citations
470	Bioprinting Technology in Skin, Heart, Pancreas and Cartilage Tissues: Progress and Challenges in Clinical Practice. International Journal of Environmental Research and Public Health, 2021, 18, 10806.	1.2	11
471	A New Printable Alginate/Hyaluronic Acid/Gelatin Hydrogel Suitable for Biofabrication of In Vitro and In Vivo Metastatic Melanoma Models. Advanced Functional Materials, 2022, 32, 2107993.	7.8	17
472	Facile Bioprinting Process for Fabricating Sizeâ€Controllable Functional Microtissues Using Lightâ€Activated Decellularized Extracellular Matrixâ€Based Bioinks. Advanced Materials Technologies, 2022, 7, .	3.0	18
473	Biomimetic Graphene/Spongin Scaffolds for Improved Osteoblasts Bioactivity via Dynamic Mechanical Stimulation. Macromolecular Bioscience, 2021, 22, 2100311.	2.1	3
474	Bioink design for extrusion-based bioprinting. Applied Materials Today, 2021, 25, 101227.	2.3	15
480	Bioprinting Au Natural: The Biologics of Bioinks. Biomolecules, 2021, 11, 1593.	1.8	17
481	Tumor organoids: synergistic applications, current challenges, and future prospects in cancer therapy. Cancer Communications, 2021, 41, 1331-1353.	3.7	48
482	Facile Fabrication of Three-Dimensional Hydrogel Film with Complex Tissue Morphology. Bioengineering, 2021, 8, 164.	1.6	1
483	3D-bioprinted BMSC-laden biomimetic multiphasic scaffolds for efficient repair of osteochondral defects in an osteoarthritic rat model. Biomaterials, 2021, 279, 121216.	5.7	81
484	3D printed hydrogel scaffolds with macro pores and interconnected microchannel networks for tissue engineering vascularization. Chemical Engineering Journal, 2022, 430, 132926.	6.6	40
485	Concise review: Harnessing iPSC-derived cells for ischemic heart disease treatment. Journal of Translational Internal Medicine, 2020, 8, 20-25.	1.0	9
486	Materials Chemistry of Neural Interface Technologies and Recent Advances in Three-Dimensional Systems. Chemical Reviews, 2022, 122, 5277-5316.	23.0	31
487	A Bioprinted Tubular Intestine Model Using a Colonâ€Specific Extracellular Matrix Bioink. Advanced Healthcare Materials, 2022, 11, e2101768.	3.9	15
488	Bioprinting of Complex Multicellular Organs with Advanced Functionalityâ€"Recent Progress and Challenges Ahead. Advanced Materials, 2022, 34, e2101321.	11.1	31
489	An open source extrusion bioprinter based on the E3D motion system and tool changer to enable FRESH and multimaterial bioprinting. Scientific Reports, 2021, 11, 21547.	1.6	10
490	Bioprinting of Collagen Type I and II via Aerosol Jet Printing for the Replication of Dense Collagenous Tissues. Frontiers in Bioengineering and Biotechnology, 2021, 9, 786945.	2.0	11
492	Bioprinting Scaffolds for Vascular Tissues and Tissue Vascularization. Bioengineering, 2021, 8, 178.	1.6	14
493	Cardiac Tissue Engineering for the Treatment of Myocardial Infarction. Journal of Cardiovascular Development and Disease, 2021, 8, 153.	0.8	5

#	Article	IF	Citations
494	Construction of 3D hierarchical tissue platforms for modeling diabetes. APL Bioengineering, 2021, 5, 041506.	3.3	3
498	Extracellular matrix grafts: From preparation to application (Review). International Journal of Molecular Medicine, 2021, 47, 463-474.	1.8	2
499	A Dual-sensitive Hydrogel Based on Poly(Lactide-co-Glycolide)-Polyethylene Glycol-Poly(Lactide-co-Glycolide) Block Copolymers for 3D Printing. International Journal of Bioprinting, 2021, 7, 389.	1.7	0
500	Developments and Opportunities for 3D Bioprinted Organoids. International Journal of Bioprinting, 2021, 7, 364.	1.7	2
501	Myocardial tissue engineering. , 2022, , 409-457.		0
502	Recent advances on bioengineering approaches for fabrication of functional engineered cardiac pumps: A review. Biomaterials, 2022, 280, 121298.	5.7	26
503	Engineering the niche to differentiate and deploy cardiovascular cells. Current Opinion in Biotechnology, 2022, 74, 122-128.	3.3	2
504	Developments and Opportunities for 3D Bioprinted OrganoidsÂ. International Journal of Bioprinting, 2021, 7, 364.	1.7	46
505	Bioinks and Bioprinting Strategies for Skeletal Muscle Tissue Engineering. Advanced Materials, 2022, 34, e2105883.	11.1	53
506	Engineered Myoblast-Laden Collagen Filaments Fabricated Using a Submerged Bioprinting Process to Obtain Efficient Myogenic Activities. Biomacromolecules, 2021, 22, 5042-5051.	2.6	6
507	3D extrusion bioprinting. Nature Reviews Methods Primers, 2021, 1, .	11.8	127
508	Slide-Ring Structure-Based Double-Network Hydrogel with Enhanced Stretchability and Toughness for 3D-Bio-Printing and Its Potential Application as Artificial Small-Diameter Blood Vessels. ACS Applied Bio Materials, 2021, 4, 8597-8606.	2.3	20
509	Homogeneous and Reproducible Mixing of Highly Viscous Biomaterial Inks and Cell Suspensions to Create Bioinks. Gels, 2021, 7, 227.	2.1	16
510	3D Bioprinting Strategies, Challenges, and Opportunities to Model the Lung Tissue Microenvironment and Its Function. Frontiers in Bioengineering and Biotechnology, 2021, 9, 773511.	2.0	32
511	Programmable and contractile materials through cell encapsulation in fibrous hydrogel assemblies. Science Advances, 2021, 7, eabi8157.	4.7	36
512	A dual-gelling poly(N-isopropylacrylamide)-based ink and thermoreversible poloxamer support bath for high-resolution bioprinting. Bioactive Materials, 2022, 14, 302-312.	8.6	12
513	Selective Detection of an Infection Biomarker by an Osteo-Friend Scaffold: Development of a Multifunctional Artificial Bone Substitute. Biosensors, 2021, 11, 473.	2.3	2
515	Biobridge: An Outlook on Translational Bioinks for 3D Bioprinting. Advanced Science, 2022, 9, e2103469.	5.6	21

#	Article	IF	Citations
517	Integrated genome and tissue engineering enables screening of cancer vulnerabilities in physiologically relevant perfusable ex vivo cultures. Biomaterials, 2022, 280, 121276.	5.7	5
518	Evolution of Additive Manufacturing Processes: From the Background to Hybrid Printers. Materials Forming, Machining and Tribology, 2022, , 95-110.	0.7	2
519	Long-Fiber Embedded Hydrogel 3D Printing for Structural Reinforcement. ACS Biomaterials Science and Engineering, 2022, 8, 303-313.	2.6	10
522	OUP accepted manuscript. Burns and Trauma, 2022, 10, tkab044.	2.3	5
523	Conditional immortalization of human atrial myocytes for the generation of in vitro models of atrial fibrillation. Nature Biomedical Engineering, 2022, 6, 389-402.	11.6	16
524	Chitosan-based inks for 3D printing and bioprinting. Green Chemistry, 2022, 24, 62-101.	4.6	76
525	Engineering pro-angiogenic biomaterials via chemoselective extracellular vesicle immobilization. Biomaterials, 2022, 281, 121357.	5.7	20
526	Arbitrary-shape-adaptable strain sensor array with optimized circuit layout via direct-ink-writing: Scalable design and hierarchical printing. Materials and Design, 2022, 214, 110388.	3.3	13
527	Enhancing precision in bioprinting utilizing fuzzy systems. Bioprinting, 2022, 25, e00190.	2.9	6
529	Extracellular matrix grafts: From preparation to application (Review). International Journal of Molecular Medicine, 2020, 47, 463-474.	1.8	20
530	Templateâ€Enabled Biofabrication of Thick 3D Tissues with Patterned Perfusable Macrochannels. Advanced Healthcare Materials, 2022, 11, e2102123.	3.9	10
531	3D printing for soft musculoskeletal tissue engineering. , 2022, , 167-200.		0
532	Tunable Microgelâ€Templated Porogel (MTP) Bioink for 3D Bioprinting Applications. Advanced Healthcare Materials, 2022, 11, e2200027.	3.9	19
533	Pushing the rheological and mechanical boundaries of extrusion-based 3D bioprinting. Trends in Biotechnology, 2022, 40, 891-902.	4.9	35
534	Mechanically and biologically promoted cell-laden constructs generated using tissue-specific bioinks for tendon/ligament tissue engineering applications. Biofabrication, 2022, 14, 025013.	3.7	19
535	3D Culture Platform for Enabling Large-Scale Imaging and Control of Cell Distribution into Complex Shapes by Combining 3D Printing with a Cube Device. Micromachines, 2022, 13, 156.	1.4	4
536	Responsive biomaterials for 3D bioprinting: A review. Materials Today, 2022, 52, 112-132.	8.3	64
537	Stiffness control in dual color tomographic volumetric 3D printing. Nature Communications, 2022, 13, 367.	5.8	21

#	Article	IF	Citations
538	hESCsâ€Derived Early Vascular Cell Spheroids for Cardiac Tissue Vascular Engineering and Myocardial Infarction Treatment. Advanced Science, 2022, 9, e2104299.	5.6	26
539	Tunable biomaterials for myocardial tissue regeneration: promising new strategies for advanced biointerface control and improved therapeutic outcomes. Biomaterials Science, 2022, 10, 1626-1646.	2.6	12
540	3D-bioprinted vascular scaffold with tunable mechanical properties for simulating and promoting neo-vascularization. Smart Materials in Medicine, 2022, 3, 199-208.	3.7	19
541	3D bioprinting of complex tissues in vitro: state-of-the-art and future perspectives. Archives of Toxicology, 2022, 96, 691-710.	1.9	33
542	Aspiration-assisted freeform bioprinting of mesenchymal stem cell spheroids within alginate microgels. Biofabrication, 2022, 14, 024103.	3.7	25
543	Bioprinting: A Strategy to Build Informative Models of Exposure and Disease. IEEE Reviews in Biomedical Engineering, 2023, 16, 594-610.	13.1	1
544	Bioprinted microvasculature: progressing from structure to function. Biofabrication, 2022, 14, 022002.	3.7	21
545	Next-generation engineered microsystems for cell biology: a systems-level roadmap. Trends in Cell Biology, 2022, 32, 490-500.	3.6	5
546	Control of stem cell differentiation by using extrinsic photobiomodulation in conjunction with cell adhesion pattern. Scientific Reports, 2022, 12, 1812.	1.6	7
547	3D Bioprinting Technology â€" One Step Closer Towards Cardiac Tissue Regeneration. Frontiers in Materials, 2022, 8, .	1.2	6
548	Evolution of 3D bioprinting-from the perspectives of bioprinting companies. Bioprinting, 2022, 25, e00193.	2.9	11
549	A potential future Fontan modification: preliminary <i>in vitro</i> data of a pressure-generating tube from engineered heart tissue. European Journal of Cardio-thoracic Surgery, 2022, 62, .	0.6	3
551	â€˜Invisibleâ€™ orthodontics by polymeric â€˜clearâ€™ aligners molded on 3D-printed personalized dental models. International Journal of Energy Production and Management, 2022, 9, rbac007.	1.9	35
552	Cell sedimentation during 3D bioprinting: a mini review. Bio-Design and Manufacturing, 2022, 5, 617-626.	3.9	15
553	Next Evolution in Organâ€Scale Biofabrication: Bioresin Design for Rapid Highâ€Resolution Vat Polymerization. Advanced Materials, 2022, 34, e2107759.	11.1	30
554	Characterization of Five Collagenous Biomaterials by SEM Observations, TG-DTA, Collagenase Dissolution Tests and Subcutaneous Implantation Tests. Materials, 2022, 15, 1155.	1.3	2
555	3D Bio-printing For Skin Tissue Regeneration: Hopes and Hurdles. Current Stem Cell Research and Therapy, 2022, 17, 415-439.	0.6	4
556	Embedded bioprinting for designer 3D tissue constructs with complex structural organization. Acta Biomaterialia, 2022, 140, 1-22.	4.1	35

#	Article	IF	Citations
557	Colloidal multiscale porous adhesive (bio)inks facilitate scaffold integration. Applied Physics Reviews, 2021, 8, 041415.	5.5	28
559	Articulation inspired by nature: a review of biomimetic and biologically active 3D printed scaffolds for cartilage tissue engineering. Biomaterials Science, 2022, 10, 2462-2483.	2.6	19
560	Hydrogels for 3D embedded bioprinting: a focused review on bioinks and support baths. Journal of Materials Chemistry B, 2022, 10, 1897-1907.	2.9	28
561	Subtractive manufacturing with swelling induced stochastic folding of sacrificial materials for fabricating complex perfusable tissues in multi-well plates. Lab on A Chip, 2022, 22, 1929-1942.	3.1	9
562	Polysaccharide Derivative for High-Precision Stereolithography 3D Hydrogel Bio-Printing. SSRN Electronic Journal, 0, , .	0.4	0
564	Computer vision-aided bioprinting for bone research. Bone Research, 2022, 10, 21.	5.4	9
565	Functional hydrogels for the treatment of myocardial infarction. NPG Asia Materials, 2022, 14, .	3.8	41
566	Protein-Based Hydrogels: Promising Materials for Tissue Engineering. Polymers, 2022, 14, 986.	2.0	41
567	New method for reducing viscosity and shear stress in hydrogel 3D printing via multidimension vibration. Computer Methods in Biomechanics and Biomedical Engineering, 2022, 25, 1796-1811.	0.9	6
568	Main Applications and Recent Research Progresses of Additive Manufacturing in Dentistry. BioMed Research International, 2022, 2022, 1-26.	0.9	9
569	Biomimetic <i>in vitro</i> heart platforms for drug development. Organoid, 0, 2, e1.	0.0	0
570	Toward improved understanding of cardiac development and congenital heart disease: The advent of cardiac organoids. Journal of Thoracic and Cardiovascular Surgery, 2022, 164, 2013-2018.	0.4	3
571	3D Printing: Applications in Tissue Engineering, Medical Devices, and Drug Delivery. AAPS PharmSciTech, 2022, 23, 92.	1.5	49
572	Roadmap for Additive Manufacturing: Toward Intellectualization and Industrialization. , 2022, 1, 100014.		15
573	Investigating the Thermodynamics Underlying Monosaccharide-Mediated Collagen Polymerization for Materials Design. Chemistry of Materials, 2022, 34, 3099-3108.	3.2	2
574	Advances in 3D Bioprinting. , 2022, 1, 100011.		12
575	Fabrication of 3D GelMA Scaffolds Using Agarose Microgel Embedded Printing. Micromachines, 2022, 13, 469.	1.4	15
576	Inorganic biomaterialsâ€based bioinks for threeâ€dimensional bioprinting of regenerative scaffolds. View, 2022, 3, .	2.7	20

#	Article	IF	Citations
577	Bioink with cartilage-derived extracellular matrix microfibers enables spatial control of vascular capillary formation in bioprinted constructs. Biofabrication, 2022, 14, 034104.	3.7	26
578	Towards Bioinspired Meniscus-Regenerative Scaffolds: Engineering a Novel 3D Bioprinted Patient-Specific Construct Reinforced by Biomimetically Aligned Nanofibers. International Journal of Nanomedicine, 2022, Volume 17, 1111-1124.	3.3	10
579	Microfluidic Tissue Engineering and Bioâ€Actuation. Advanced Materials, 2022, 34, e2108427.	11.1	28
580	Collagen Based 3D Printed Scaffolds for Tissue Engineering. , 0, , .		3
581	3D Printing of Monolithic Proteinaceous Cantilevers Using Regenerated Silk Fibroin. Molecules, 2022, 27, 2148.	1.7	7
582	Biomaterialâ€"Related Cell Microenvironment in Tissue Engineering and Regenerative Medicine. Engineering, 2022, 13, 31-45.	3.2	42
583	Recent Advances in Polymer Additive Engineering for Diagnostic and Therapeutic Hydrogels. International Journal of Molecular Sciences, 2022, 23, 2955.	1.8	6
584	Orthogonally induced differentiation of stem cells for the programmatic patterning of vascularized organoids and bioprinted tissues. Nature Biomedical Engineering, 2022, 6, 449-462.	11.6	52
585	Nanoparticleâ€Stabilized Emulsion Bioink for Digital Light Processing Based 3D Bioprinting of Porous Tissue Constructs. Advanced Healthcare Materials, 2022, 11, e2102810.	3.9	12
586	3D-printable plant protein-enriched scaffolds for cultivated meat development. Biomaterials, 2022, 284, 121487.	5.7	66
587	Projection-based 3D bioprinting for hydrogel scaffold manufacturing. Bio-Design and Manufacturing, 2022, 5, 633-639.	3.9	17
588	FRESH 3D bioprinting a contractile heart tube using human stem cell-derived cardiomyocytes. Biofabrication, 2022, 14, 024106.	3.7	20
589	Onâ€Demand Programming of Liquid Metalâ€Composite Microstructures through Direct Ink Write 3D Printing. Advanced Materials, 2022, 34, e2200182.	11.1	40
590	Human Engineered Heart Tissue Models for Disease Modeling and Drug Discovery. Frontiers in Cell and Developmental Biology, 2022, 10, 855763.	1.8	23
591	Embedded 3D Printing of Ultrasoundâ€Compatible Arterial Phantoms with Biomimetic Elasticity. Advanced Functional Materials, 2022, 32, .	7.8	15
593	Continuous fiber extruder for desktop 3D printers toward long fiber embedded hydrogel 3D printing. HardwareX, 2022, 11, e00297.	1.1	5
594	Translational organoid technology â€" the convergence of chemical, mechanical, and computational biology. Trends in Biotechnology, 2022, 40, 1121-1135.	4.9	7
595	Recent Advances in Designing Electroconductive Biomaterials for Cardiac Tissue Engineering. Advanced Healthcare Materials, 2022, 11, e2200055.	3.9	28

#	Article	IF	Citations
596	Mesenchymal Stem/Stromal Cells in Organ Transplantation. Pharmaceutics, 2022, 14, 791.	2.0	9
597	The emerging role of bile acids as critical components in nanotechnology and bioengineering: Pharmacology, formulation optimizers and hydrogel-biomaterial applications. Biomaterials, 2022, 283, 121459.	5.7	22
598	3D printed scaffolds: Challenges toward developing relevant cellular in vitro models. Biomaterials and Biosystems, 2022, 6, 100044.	1.0	2
599	Design of biodegradable 3D-printed cardiovascular stent. Bioprinting, 2022, 26, e00204.	2.9	9
600	3D printing of cell-laden visible light curable glycol chitosan bioink for bone tissue engineering. Carbohydrate Polymers, 2022, 287, 119328.	5.1	31
601	Stem cell-laden hydrogel bioink for generation of high resolution and fidelity engineered tissues with complex geometries. Bioactive Materials, 2022, 15, 185-193.	8.6	17
602	Using hiPSCâ€CMs to Examine Mechanisms of Catecholaminergic Polymorphic Ventricular Tachycardia. Current Protocols, 2021, 1, e320.	1.3	3
603	Novel Digital Light Processing Printing Strategy Using a Collagen-Based Bioink with Prospective Cross-Linker Procyanidins. Biomacromolecules, 2022, 23, 240-252.	2.6	19
604	Materials for Dentoalveolar Bioprinting: Current State of the Art. Biomedicines, 2022, 10, 71.	1.4	10
605	Freeform Liquid 3D Printing of Soft Functional Components for Soft Robotics. ACS Applied Materials & Interfaces, 2022, 14, 2301-2315.	4.0	17
606	A multi-scale E-jet 3D printing regulated by structured multi-physics field. Journal of Micromechanics and Microengineering, 2022, 32, 025005.	1.5	4
607	Soft Bioelectronics Based on Nanomaterials. Chemical Reviews, 2022, 122, 5068-5143.	23.0	72
608	Novel Combinatorial Strategy Using Thermal Inkjet Bioprinting, Chemotherapy, and Radiation on Human Breast Cancer Cells; an In-Vitro Cell Viability Assessment. Materials, 2021, 14, 7864.	1.3	4
609	Growing Hydrogel Organ Mannequins with Interconnected Cavity Structures. Advanced Functional Materials, 2022, 32, .	7.8	14
610	In vivo biocompatibility evaluation of in situ-forming polyethylene glycol-collagen hydrogels in corneal defects. Scientific Reports, 2021, 11, 23913.	1.6	12
611	Freeform 3D Bioprinting Involving Ink Gelation by Cascade Reaction of Oxidase and Peroxidase: A Feasibility Study Using Hyaluronic Acid-Based Ink. Biomolecules, 2021, 11, 1908.	1.8	7
612	3D Printing of Cellâ€Laden Microgelâ€Based Biphasic Bioink with Heterogeneous Microenvironment for Biomedical Applications. Advanced Functional Materials, 2022, 32, .	7.8	43
613	Direct Microextrusion Printing of a Low Viscosity Hydrogel on a Supportive Microstructured Bioprinting Substrate for the Vasculogenesis of Endothelial Cells. Advanced Materials Technologies, 2022, 7, .	3.0	4

#	Article	IF	Citations
614	Micro-CTâ€“Based Bone Microarchitecture Analysis of the Murine Skull. Methods in Molecular Biology, 2022, 2403, 129-145.	0.4	6
615	Three-Dimensional Osteogenic Differentiation of Bone Marrow Mesenchymal Stem Cells Promotes Matrix Metallopeptidase 13 (MMP13) Expression in Type I Collagen Hydrogels. International Journal of Molecular Sciences, 2021, 22, 13594.	1.8	8
616	Immune and Genome Engineering as the Future of Transplantable Tissue. New England Journal of Medicine, 2021, 385, 2451-2462.	13.9	28
617	A Dual-sensitive Hydrogel Based on Poly(Lactide-co-Glycolide)-Polyethylene GlycolPoly(Lactide-co-Glycolide) Block Copolymers for 3D Printing. International Journal of Bioprinting, 2021, 7, 389.	1.7	6
618	Progress in Bioengineering Strategies for Heart Regenerative Medicine. International Journal of Molecular Sciences, 2022, 23, 3482.	1.8	14
619	Natural Scaffolds Used for Liver Regeneration: A Narrative Update. Stem Cell Reviews and Reports, 2022, 18, 2262-2278.	1.7	4
620	Pushing the Natural Frontier: Progress on the Integration of Biomaterial Cues toward Combinatorial Biofabrication and Tissue Engineering. Advanced Materials, 2022, 34, e2105645.	11.1	21
621	Engineering Efforts to Refine Compatibility and Duration of Aortic Valve Replacements: An Overview of Previous Expectations and New Promises. Frontiers in Cardiovascular Medicine, 2022, 9, 863136.	1.1	3
622	Reconstructing the pulmonary niche with stem cells: a lung story. Stem Cell Research and Therapy, 2022, 13, 161.	2.4	9
623	A Comprehensive Assessment on the Pivotal Role of Hydrogels in Scaffold-Based Bioprinting. Gels, 2022, 8, 239.	2.1	6
624	Programming hydrogels to probe spatiotemporal cell biology. Cell Stem Cell, 2022, 29, 678-691.	5.2	28
625	Integrating Additive Manufacturing Techniques to Improve Cellâ€Based Implants for the Treatment of Type 1 Diabetes. Advanced Healthcare Materials, 2022, 11, e2200243.	3.9	4
626	Reprograming the immune niche for skin tissue regeneration â€“ From cellular mechanisms to biomaterials applications. Advanced Drug Delivery Reviews, 2022, 185, 114298.	6.6	19
633	Emerging strategies in 3D printed tissue models for inÂvitro biomedical research. , 2022, , 207-246.		1
634	Modeling Human Heart Development and Congenital Defects Using Organoids: How Close Are We?. Journal of Cardiovascular Development and Disease, 2022, 9, 125.	0.8	3
635	Engineered assistive materials for 3D bioprinting: support baths and sacrificial inks. Biofabrication, 2022, 14, 032001.	3.7	23
636	3D Printing and Virtual Surgical Planning in Oral and Maxillofacial Surgery. Journal of Clinical Medicine, 2022, 11, 2385.	1.0	29
637	Opportunities and challenges in cardiac tissue engineering from an analysis of two decades of advances. Nature Biomedical Engineering, 2022, 6, 327-338.	11.6	25

#	Article	IF	Citations
638	Investigation of Cell Concentration Change and Cell Aggregation Due to Cell Sedimentation during Inkjet-Based Bioprinting of Cell-Laden Bioink. Machines, 2022, 10, 315.	1.2	5
639	Current methods for fabricating 3D cardiac engineered constructs. IScience, 2022, 25, 104330.	1.9	4
640	Biomanufacturing human tissues via organ building blocks. Cell Stem Cell, 2022, 29, 667-677.	5.2	31
641	An Overview of Extracellular Matrix-Based Bioinks for 3D Bioprinting. Frontiers in Bioengineering and Biotechnology, 2022, 10, .	2.0	15
642	Cardiac Organoids: A 3D Technology for Modeling Heart Development and Disease. Stem Cell Reviews and Reports, 2022, 18, 2593-2605.	1.7	13
643	Engineering Models of the Heart Left Ventricle. ACS Biomaterials Science and Engineering, 2022, 8, 2144-2160.	2.6	2
644	Advances in three-dimensional bioprinted stem cell-based tissue engineering for cardiovascular regeneration. Journal of Molecular and Cellular Cardiology, 2022, 169, 13-27.	0.9	8
645	FRESH bioprinting of biodegradable chitosan thermosensitive hydrogels. Bioprinting, 2022, 27, e00209.	2.9	9
646	Biomaterials for bioprinting. , 2022, , 51-86.		2
647	A simple and scalable 3D printing methodology for generating aligned and extended human and murine skeletal muscle tissues. Biomedical Materials (Bristol), 2022, 17, 045013.	1.7	6
648	Latest Advances in 3D Bioprinting of Cardiac Tissues. Advanced Materials Technologies, 2022, 7, .	3.0	17
649	Biofabrication of Collagen Tissue-Engineered Blood Vessels with Direct Co-Axial Extrusion. International Journal of Molecular Sciences, 2022, 23, 5618.	1.8	6
650	Stem Cell-Laden Hydrogel-Based 3D Bioprinting for Bone and Cartilage Tissue Engineering. Frontiers in Bioengineering and Biotechnology, 2022, 10, .	2.0	18
651	From Soft to Hard Biomimetic Materials: Tuning Micro/Nano-Architecture of Scaffolds for Tissue Regeneration. Micromachines, 2022, 13, 780.	1.4	15
652	Low-intensity pulsed ultrasound promotes cell viability and inhibits apoptosis of H9C2 cardiomyocytes in 3D bioprinting scaffolds via PI3K-Akt and ERK1/2 pathways. Journal of Biomaterials Applications, 2022, 37, 402-414.	1.2	4
653	FRESH 3D Bioprinting a Ventricle-like Cardiac Construct Using HumanÂStem Cell-Derived Cardiomyocytes. Methods in Molecular Biology, 2022, , 71-85.	0.4	4
654	Computer Vision-Aided 2D Error Assessment and Correction for Helix Bioprinting. International Journal of Bioprinting, 2022, 8, 547.	1.7	3
655	A micro-channel array in a tissue engineered vessel graft guides vascular morphogenesis for anastomosis with self-assembled vascular networks. Acta Biomaterialia, 2023, 163, 182-193.	4.1	5

#	Article	IF	Citations
656	Investigation on the Temperature Control Accuracy of a Print Head for Extrusion 3D Printing and Its Improved Design. Biomedicines, 2022, 10, 1233.	1.4	3
657	Scaffolding technologies for the engineering of cultured meat: Towards a safe, sustainable, and scalable production. Trends in Food Science and Technology, 2022, 126, 13-25.	7.8	25
658	Extracellular matrix dynamics: tracking in biological systems and their implications. Journal of Biological Engineering, 2022, 16, .	2.0	26
659	Engineering the multiscale complexity of vascular networks. Nature Reviews Materials, 2022, 7, 702-716.	23.3	61
660	One-Step FRESH Bioprinting of Low-Viscosity Silk Fibroin Inks. ACS Biomaterials Science and Engineering, 2022, 8, 2589-2597.	2.6	8
661	Investigation and Characterization of Cell Aggregation During and After Inkjet-Based Bioprinting of Cell-Laden Bioink. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2022, 144, .	1.3	8
662	Tissue-engineered heart chambers as a platform technology for drug discovery and disease modeling. , 2022, 138, 212916.		11
663	Application Status of Sacrificial Biomaterials in 3D Bioprinting. Polymers, 2022, 14, 2182.	2.0	15
664	Engineering the next generation of cell-based therapeutics. Nature Reviews Drug Discovery, 2022, 21, 655-675.	21.5	93
665	Layer-by-layer assembly methods and their biomedical applications. Biomaterials Science, 2022, 10, 4077-4094.	2.6	23
668	Cellular and Engineered Organoids for Cardiovascular Models. Circulation Research, 2022, 130, 1780-1802.	2.0	27
669	In vitro circulation model driven by tissue-engineered dome-shaped cardiac tissue. Biofabrication, 0, , .	3.7	2
670	Embedded 3D Printing in Selfâ€Healing Annealable Composites for Precise Patterning of Functionally Mature Human Neural Constructs. Advanced Science, 2022, 9, .	5.6	21
671	A versatile embedding medium for freeform bioprinting with multi-crosslinking methods. Biofabrication, 2022, 14, 035022.	3.7	12
672	Infiltration from Suspension Systems Enables Effective Modulation of 3D Scaffold Properties in Suspension Bioprinting. ACS Applied Materials & Interfaces, 2022, 14, 27575-27588.	4.0	4
673	Cardiovascular 3D bioprinting: A review on cardiac tissue development. Bioprinting, 2022, 28, e00221.	2.9	12
674	Bioink derived from human placenta supporting angiogenesis. Biomedical Materials (Bristol), 2022, 17, 055009.	1.7	6
675	To infinity and beyond: Strategies for fabricating medicines in outer space. International Journal of Pharmaceutics: X, 2022, 4, 100121.	1.2	3

#	Article	IF	Citations
676	Collagen composite inks for Aerosol JetÂ® printing in bone tissue engineering applications. Procedia CIRP, 2022, 110, 180-185.	1.0	1
677	Investigation of Hydrogel and Gelatin Bath Formulations for Extrusion-Based 3D Bioprinting using Deep Learning. Procedia CIRP, 2022, 110, 360-365.	1.0	6
678	3D printed human organoids: High throughput system for drug screening and testing in current COVIDâ€19 pandemic. Biotechnology and Bioengineering, 2022, 119, 2669-2688.	1.7	21
680	Recreating the heartâ€™s helical structure-function relationship with focused rotary jet spinning. Science, 2022, 377, 180-185.	6.0	47
681	Tissue Engineering Cartilage with Deep Zone Cytoarchitecture by Highâ€Resolution Acoustic Cell Patterning. Advanced Healthcare Materials, 2022, 11, .	3.9	17
682	Hearts by design. Science, 2022, 377, 148-150.	6.0	1
683	3D Bioprinting with Live Cells. Engineered Regeneration, 2022, 3, 292-309.	3.0	11
684	Cellâ€Laden Gradient Microgel Suspensions for Spatial Control of Differentiation During Biofabrication. Advanced Healthcare Materials, 2022, 11, .	3.9	7
685	Functional Trachea Reconstruction Using 3Dâ€Bioprinted Nativeâ€Like Tissue Architecture Based on Designable Tissueâ€Specific Bioinks. Advanced Science, 2022, 9, .	5.6	24
686	Techniques, challenges and future prospects for cell-based meat. Food Science and Biotechnology, 2022, 31, 1225-1242.	1.2	4
687	3D Bioprinting: An Enabling Technology to Understand Melanoma. Cancers, 2022, 14, 3535.	1.7	6
688	Tissue bioprinting for biology and medicine. Cell, 2022, 185, 2644-2648.	13.5	10
689	Recent trends in bioartificial muscle engineering and their applications in cultured meat, biorobotic systems and biohybrid implants. Communications Biology, 2022, 5, .	2.0	12
690	A three-dimensional culture system for generating cardiac spheroids composed of cardiomyocytes, endothelial cells, smooth-muscle cells, and cardiac fibroblasts derived from human induced-pluripotent stem cells. Frontiers in Bioengineering and Biotechnology, 0, 10, .	2.0	14
691	Ovary-derived Decellularized Extracellular Matrix-based Bioink for Fabricating 3D Primary Ovarian Cells-laden Structures for Mouse Ovarian Failure Correction. International Journal of Bioprinting, 2022, 8, 597.	1.7	10
692	3D-printed, configurable, paper-based, and autonomous multi-organ-on-paper platforms. Molecular Systems Design and Engineering, 2022, 7, 1538-1548.	1.7	3
693	Photo-responsive hydrogel-based re-programmable metamaterials. Scientific Reports, 2022, 12, .	1.6	10
694	Advances of 3D Printing in Vascularized Organ Construction. International Journal of Bioprinting, 2022, 8, 588.	1.7	5

#	Article	IF	Citations
695	Extracellular Matrix Microparticles Improve GelMA Bioink Resolution for 3D Bioprinting at Ambient Temperature. Macromolecular Materials and Engineering, 2022, 307, .	1.7	11
696	Dip-Printed Microneedle Motors for Oral Macromolecule Delivery. Research, 2022, 2022, .	2.8	7
697	Biomaterial-based 3D bioprinting strategy for orthopedic tissue engineering. Acta Biomaterialia, 2023, 156, 4-20.	4.1	24
698	Biofabrication of Sodium Alginate Hydrogel Scaffolds for Heart Valve Tissue Engineering. International Journal of Molecular Sciences, 2022, 23, 8567.	1.8	15
699	Three-Dimensional Printing in Stimuli-Responsive Yield-Stress Fluid with an Interactive Dual Microstructure. ACS Applied Materials & Interfaces, 2022, 14, 39420-39431.	4.0	9
700	Vascularization in Bioartificial Parenchymal Tissue: Bioink and Bioprinting Strategies. International Journal of Molecular Sciences, 2022, 23, 8589.	1.8	8
701	Accelerating cardiovascular research: recent advances in translational <scp>2D</scp> and <scp>3D</scp> heart models. European Journal of Heart Failure, 2022, 24, 1778-1791.	2.9	11
702	Biomacromolecule-based agent for high-precision light-based 3D hydrogel bioprinting. Cell Reports Physical Science, 2022, 3, 100985.	2.8	10
704	Three-Dimensional Bioprinting for Cartilage Tissue Engineering: Insights into Naturally-Derived Bioinks from Land and Marine Sources. Journal of Functional Biomaterials, 2022, 13, 118.	1.8	18
705	Growing Pains: The Need for Engineered Platforms to Study Growth Plate Biology. Advanced Healthcare Materials, 2022, 11, .	3.9	8
706	Rapid and Multimaterial 4D Printing of Shapeâ€Morphing Micromachines for Narrow Micronetworks Traversing. Small, 2022, 18, .	5.2	9
707	Bioprinting: from Technique to Application in Tissue Engineering and Regenerative Medicine. Current Molecular Medicine, 2022, 23, .	0.6	2
708	Bioprinted anisotropic scaffolds with fast stress relaxation bioink for engineering 3D skeletal muscle and repairing volumetric muscle loss. Acta Biomaterialia, 2023, 156, 21-36.	4.1	20
709	3D bioprinting for the repair of articular cartilage and osteochondral tissue. Bioprinting, 2022, 28, e00239.	2.9	11
710	Spatiotemporal T cell dynamics in a 3D bioprinted immunotherapy model. Bioprinting, 2022, 28, e00231.	2.9	3
711	Recent advancements in extrudable gel-based bioinks for biomedical settings. Journal of Drug Delivery Science and Technology, 2022, 75, 103697.	1.4	2
712	Methods for biomaterials printing: A short review and perspective. Methods, 2022, 206, 1-7.	1.9	11
713	Organ-on-a-chip: A new tool for in vitro research. Biosensors and Bioelectronics, 2022, 216, 114626.	5.3	16

#	Article	IF	Citations
714	Cryoprinting of nanoparticle-enhanced injectable hydrogel with shape-memory properties. Materials and Design, 2022, 223, 111120.	3.3	8
715	Micro/nano functional devices fabricated by additive manufacturing. Progress in Materials Science, 2023, 131, 101020.	16.0	55
716	3D bioprinting: Materials, processes, and applications. CIRP Annals - Manufacturing Technology, 2022, 71, 577-597.	1.7	12
717	Preparation of Diatom-Doped Bio-Nanocomposite Materials for Bone Tissue Scaffolds. Materials Research, 0, 25, .	0.6	4
718	3D bioprinting: overview and recent developments. , 2022, , 149-171.		0
719	Photo-crosslinkable methacrylated konjac glucomannan (KGMMA) hydrogels as a promising bioink for 3D bioprinting. Biomaterials Science, 2022, 10, 6549-6557.	2.6	11
720	Hydrogel Injection Molding to Generate Complex Cell Encapsulation Geometries. ACS Biomaterials Science and Engineering, 2022, 8, 4002-4013.	2.6	11
721	Study on properties of 3D-printed GelMA hydrogel scaffolds with different nHA contents. Journal of Bioactive and Compatible Polymers, 2022, 37, 392-405.	0.8	1
722	Classification of the emerging freeform three-dimensional printing techniques. MRS Bulletin, 2023, 48, 69-92.	1.7	6
723	3D Bioprinted Patientâ€Specific Extracellular Matrix Scaffolds for Soft Tissue Defects. Advanced Healthcare Materials, 2022, 11, .	3.9	17
724	An integrated computer vision system for real-time monitoring and control of long-fiber embedded hydrogel 3D printing. Materials Today: Proceedings, 2022, , .	0.9	0
725	Ethical challenges with 3D bioprinted tissues and organs. Trends in Biotechnology, 2023, 41, 6-9.	4.9	8
726	Freeform liquid 3D printing of hydraulically enhanced dielectric actuators. Materials Today: Proceedings, 2022, 70, 83-89.	0.9	2
727	Highly bioactive cell-laden hydrogel constructs bioprinted using an emulsion bioink for tissue engineering applications. Biofabrication, 2022, 14, 045018.	3.7	6
728	Microtissueâ€Based Bioink as a Chondrocyte Microshelter for DLP Bioprinting. Advanced Healthcare Materials, 2022, 11, .	3.9	14
729	High Throughput Omnidirectional Printing of Tubular Microstructures from Elastomeric Polymers. Advanced Healthcare Materials, 2022, 11, .	3.9	7
730	A â€œNonsolvent Quenchingâ€• Strategy for 3D Printing of Polysaccharide Scaffolds with Immunoregulatory Accuracy. Advanced Science, 0, , 2203236.	5.6	3
732	Regulable Supporting Baths for Embedded Printing of Soft Biomaterials with Variable Stiffness. ACS Applied Materials & Interfaces, 2022, 14, 41695-41711.	4.0	16

#	Article	IF	Citations
733	Challenges and opportunities for the next generation of cardiovascular tissue engineering. Nature Methods, 2022, 19, 1064-1071.	9.0	45
734	Recent progress of Bioinspired Hydrogel-based delivery system for endometrial repair. Frontiers in Bioengineering and Biotechnology, 0, 10, .	2.0	5
735	Error correction based on computer vision method in extrusion-based bioprinting. Materials Today: Proceedings, 2022, , .	0.9	0
736	Complex architectural control of ice-templated collagen scaffolds using a predictive model. Acta Biomaterialia, 2022, 153, 260-272.	4.1	3
737	Multiaxis printing method for bent tubular structured gels in support bath for achieving high dimension and shape accuracy. Precision Engineering, 2023, 79, 109-118.	1.8	1
739	Engineering multicellular living systemsâ€"a Keystone Symposia report. Annals of the New York Academy of Sciences, 2022, 1518, 183-195.	1.8	3
740	Construction of Biomimetic Tissues with Anisotropic Structures via Stepwise Algorithmâ€Assisted Bioprinting. Small, 0, , 2204316.	5.2	0
742	FRESH Bioprinting of Dynamic Hydrazone-Cross-Linked Synthetic Hydrogels. Biomacromolecules, 2022, 23, 4883-4895.	2.6	10
743	Subaqueous Bioprinting: A Novel Strategy for Fetal Membrane Repair with 7â€Axis Robotâ€Assisted Minimally Invasive Surgery. Advanced Functional Materials, 2022, 32, .	7.8	7
744	Direct ink writing 3D printing of polydimethylsiloxane-based soft and composite materials: a mini review. Oxford Open Materials Science, 2022, 2, .	0.5	3
745	In situ volumetric imaging and analysis of FRESH 3D bioprinted constructs using optical coherence tomography. Biofabrication, 2023, 15, 014102.	3.7	9
746	Non-planar embedded 3D printing for complex hydrogel manufacturing. Bioprinting, 2022, 28, e00242.	2.9	2
747	3D cell/scaffold model based on aligned-electrospun-nanofiber film/hydrogel multilayers for construction of anisotropic engineered tissue. Biointerphases, 2022, 17, 051002.	0.6	0
748	Swellingâ€Dependent Shapeâ€Based Transformation of a Human Mesenchymal Stromal Cellsâ€Laden 4D Bioprinted Construct for Cartilage Tissue Engineering. Advanced Healthcare Materials, 2023, 12, .	3.9	17
749	Magneticallyâ€Assisted 3D Bioprinting of Anisotropic Tissueâ€Mimetic Constructs. Advanced Functional Materials, 2022, 32, .	7.8	24
750	Fabrication, characterization and in vivo assessment of cardiogel loaded chitosan patch for myocardial regeneration. International Journal of Biological Macromolecules, 2022, 222, 3045-3056.	3.6	5
751	Rheological and viscoelastic properties of collagens and their role in bioprinting by micro-extrusion. Biomedical Materials (Bristol), 2022, 17, 062005.	1.7	5
752	Volume adaptation of neonatal cardiomyocyte spheroids in <scp>3D</scp> stiffness gradient <scp>GelMA</scp>. Journal of Biomedical Materials Research - Part A, 2023, 111, 801-813.	2.1	3

#	Article	IF	Citations
753	The Role of Machine Learning and Design of Experiments in the Advancement of Biomaterial and Tissue Engineering Research. Bioengineering, 2022, 9, 561.	1.6	18
754	Organoid research on human early development and beyond. Medical Review, 2022, 2, 512-523.	0.3	0
755	3D-bioprinted human tissue and the path toward clinical translation. Science Translational Medicine, 2022, 14, .	5.8	13
757	Enzymatically Triggered Deprotection and Cross-Linking of Thiolated Alginate-Based Bioinks. Chemistry of Materials, 2022, 34, 9536-9545.	3.2	6
758	3D (bio)printing of lungs: past, present, and future. European Respiratory Journal, 2023, 61, 2200417.	3.1	7
759	Investigation on the Temperature Distribution Uniformity of an Extrusion-Based 3D Print Head and Its Temperature Control Strategy. Pharmaceutics, 2022, 14, 2108.	2.0	4
760	Emerging Magnetic Fabrication Technologies Provide Controllable Hierarchicallyâ€Structured Biomaterials and Stimulus Response for Biomedical Applications. Advanced Science, 2022, 9, .	5.6	11
761	Indirect 3D Bioprinting of a Robust Trilobular Hepatic Construct with Decellularized Liver Matrix Hydrogel. Bioengineering, 2022, 9, 603.	1.6	9
762	Collagen/Plasma-Polymerized Pyrrole Interaction: Molecular Docking and Binding Energy Calculations. IFMBE Proceedings, 2023, , 153-161.	0.2	0
763	Advances in Regenerative Medicine and Biomaterials. Methods in Molecular Biology, 2023, , 127-152.	0.4	3
764	Largeâ€Scale Production of Wholly Cellular Bioinks via the Optimization of Human Induced Pluripotent Stem Cell Aggregate Culture in Automated Bioreactors. Advanced Healthcare Materials, 2022, 11, .	3.9	5
765	Printâ€andâ€Grow within a Novel Support Material for 3D Bioprinting and Postâ€Printing Tissue Growth. Advanced Science, 2022, 9, .	5.6	11
766	Multicellular 3D Models for the Study of Cardiac Fibrosis. International Journal of Molecular Sciences, 2022, 23, 11642.	1.8	7
767	Challenges of Periodontal Tissue Engineering: Increasing Biomimicry through 3D Printing and Controlled Dynamic Environment. Nanomaterials, 2022, 12, 3878.	1.9	10
768	3D-bioprinting of aortic valve interstitial cells: impact of hydrogel and printing parameters on cell viability. Biomedical Materials (Bristol), 2023, 18, 015004.	1.7	6
769	Embedded extrusion printing in yield-stress-fluid baths. Matter, 2022, 5, 3775-3806.	5.0	20
770	Generation of human iPSCs derived heart organoids structurally and functionally similar to heart. Biomaterials, 2022, 290, 121860.	5.7	19
771	Hydrogel-based bioinks for 3D bioprinting articular cartilage: A comprehensive review with focus on mechanical reinforcement. Applied Materials Today, 2022, 29, 101668.	2.3	10

#	Article	IF	Citations
772	Human endothelial cells form an endothelium in freestanding collagen hollow filaments fabricated by direct extrusion printing. Biomaterials and Biosystems, 2022, 8, 100067.	1.0	2
773	Stem Cell Applications in Cardiac Tissue Regeneration. , 2022, , 769-797.		0
774	Design and Fabrication of Mature Engineered Pre-Cardiac Tissue Utilizing 3D Bioprinting Technology and Enzymatically Crosslinking Hydrogel. Materials, 2022, 15, 7928.	1.3	7
775	On the Evolution of Additive Manufacturing (3D/4D Printing) Technologies: Materials, Applications, and Challenges. Polymers, 2022, 14, 4698.	2.0	23
776	Advanced application of collagen-based biomaterials in tissue repair and restoration. Journal of Leather Science and Engineering, 2022, 4, .	2.7	28
777	Error assessment and correction for extrusion- based bioprinting using computer vision method. International Journal of Bioprinting, 2022, 9, 644.	1.7	1
778	The evolution of polyurethane heart valve replacements: How chemistry translates to the clinic. Materials Today Communications, 2022, 33, 104916.	0.9	10
779	3D conductive material strategies for modulating and monitoring cells. Progress in Materials Science, 2023, 133, 101041.	16.0	3
781	Immersion bioprinting of hyaluronan and collagen bioink-supported 3D patient-derived brain tumor organoids. Biomedical Materials (Bristol), 2023, 18, 015014.	1.7	12
782	Tunable and Compartmentalized Multimaterial Bioprinting for Complex Living Tissue Constructs. ACS Applied Materials & Interfaces, 2022, 14, 51602-51618.	4.0	11
783	Three-dimensional printing of smart constructs using stimuli-responsive biomaterials: A future direction of precision medicine. International Journal of Bioprinting, 2022, 9, 638.	1.7	5
784	DLP-based bioprinting of void-forming hydrogels for enhanced stem-cell-mediated bone regeneration. Materials Today Bio, 2022, 17, 100487.	2.6	7
785	Research Progress of Three-Dimensional Bioprinting Artificial Cardiac Tissue. Tissue Engineering and Regenerative Medicine, 2023, 20, 1-9.	1.6	6
786	Embedded 3D Printing of Multimaterial Polymer Lattices via Graphâ€Based Print Path Planning. Advanced Materials, 2023, 35, .	11.1	20
787	Advances in 3D bioprinting technology for liver regeneration. Hepatobiliary Surgery and Nutrition, 2022, 11, 917-919.	0.7	2
788	Spatial Vibration and Displacement Measurement Through Single-Point Continuous and Interval Scanning Laser Doppler Vibrometer. IEEE Transactions on Instrumentation and Measurement, 2023, 72, 1-11.	2.4	0
789	3D bioprinting of emulating homeostasis regulation for regenerative medicine applications. Journal of Controlled Release, 2023, 353, 147-165.	4.8	12
790	3D Bioprinting for Pancreas Engineering/Manufacturing. Polymers, 2022, 14, 5143.	2.0	3

#	Article	IF	Citations
792	3D Bioprinting Using Hydrogels: Cell Inks and Tissue Engineering Applications. Pharmaceutics, 2022, 14, 2596.	2.0	10
793	3D-bioprinted, phototunable hydrogel models for studying adventitial fibroblast activation in pulmonary arterial hypertension. Biofabrication, 2023, 15, 015017.	3.7	7
794	Molecular and thermodynamic insights into interfacial interactions between collagen and cellulose investigated by molecular dynamics simulation and umbrella sampling. Journal of Computer-Aided Molecular Design, 2023, 37, 39-51.	1.3	3
795	In Situ Endothelialization of Freeâ€Form 3D Network of Interconnected Tubular Channels via Interfacial Coacervation by Aqueousâ€inâ€Aqueous Embedded Bioprinting. Advanced Materials, 2023, 35, .	11.1	10
796	Sequence Control of the Self-Assembly of Elastin-Like Polypeptides into Hydrogels with Bespoke Viscoelastic and Structural Properties. Biomacromolecules, 2023, 24, 489-501.	2.6	2
797	Biomaterials of human source for 3D printing strategies. JPhys Materials, 2023, 6, 012002.	1.8	5
798	Developments and Clinical Applications of Biomimetic Tissue Regeneration using 3D Bioprinting Technique. Applied Bionics and Biomechanics, 2022, 2022, 1-12.	0.5	3
799	Biomaterial inks for extrusion-based 3D bioprinting: Property, classification, modification, and selection. International Journal of Bioprinting, 2022, 9, 649.	1.7	6
800	Robust generation of human-chambered cardiac organoids from pluripotent stem cells for improved modelling of cardiovascular diseases. Stem Cell Research and Therapy, 2022, 13, .	2.4	7
801	Three-dimensional printing of soft hydrogel electronics. Nature Electronics, 2022, 5, 893-903.	13.1	51
802	Fresh 3D Printing of Double Crosslinked Hyaluronic Acid/Pectin Hydrogels. Macromolecular Symposia, 2022, 406, .	0.4	1
803	Breaking the resolution limits of 3D bioprinting: future opportunities and present challenges. Trends in Biotechnology, 2023, 41, 604-614.	4.9	26
804	A 3Dâ€Bioprinted Functional Module Based on Decellularized Extracellular Matrix Bioink for Periodontal Regeneration. Advanced Science, 2023, 10, .	5.6	22
806	A road map on synthetic strategies and applications of biodegradable polymers. Polymer Bulletin, 2023, 80, 11507-11556.	1.7	1
807	Three-Dimensional Bioprinting with Alginate by Freeform Reversible Embedding of Suspended Hydrogels with Tunable Physical Properties and Cell Proliferation. Bioengineering, 2022, 9, 807.	1.6	9
808	3D soft tissue printingâ€"from vision to realityâ€"review of current concepts. European Journal of Plastic Surgery, 0, , .	0.3	0
809	3D printed biomimetic flexible blood vessels with iPS cell-laden hierarchical multilayers. Biomedical Engineering Advances, 2022, 4, 100065.	2.2	4
810	Direct ink write 3D printing of wave propagation sensor. Flexible and Printed Electronics, 2022, 7, 045011.	1.5	5

#	Article	IF	Citations
811	Bioprinted Membranes for Corneal Tissue Engineering: A Review. Pharmaceutics, 2022, 14, 2797.	2.0	8
812	Emerging 3D bioprinting applications in plastic surgery. Biomaterials Research, 2023, 27, .	3.2	31
813	Whole-Heart Tissue Engineering and Cardiac Patches: Challenges and Promises. Bioengineering, 2023, 10, 106.	1.6	6
814	Bioprinting Technologies and Bioinks for Vascular Model Establishment. International Journal of Molecular Sciences, 2023, 24, 891.	1.8	10
815	3D Bioprinting for Biomedical Applications. BME Frontiers, 2023, 4, .	2.2	5
816	Jammed microgels fabricated via various methods for biological studies. Korean Journal of Chemical Engineering, 0, , .	1.2	0
817	3D Printing of Selfâ€Assembling Nanofibrous Multidomain Peptide Hydrogels. Advanced Materials, 2023, 35, .	11.1	22
818	Transparent and Cell-Guiding Cellulose Nanofiber 3D Printing Bioinks. ACS Applied Materials & Interfaces, 2023, 15, 2564-2577.	4.0	4
819	Collagen processing with mesoscale aggregates as templates and building blocks. Biotechnology Advances, 2023, 63, 108099.	6.0	6
820	Extrusion <scp>3D</scp> printing of a multiphase collagenâ€based material: An optimized strategy to obtain biomimetic scaffolds with high shape fidelity. Journal of Applied Polymer Science, 2023, 140, .	1.3	5
821	Biomaterial-based in vitro 3D modeling of glioblastoma multiforme. , 2023, 1, 177-194.		2
823	Air-blood barrier (ABB) on a chip. TrAC - Trends in Analytical Chemistry, 2023, 159, 116919.	5.8	0
824	Human liver cancer organoids: Biological applications, current challenges, and prospects in hepatoma therapy. Cancer Letters, 2023, 555, 216048.	3.2	12
825	3D bioprinting vascular networks in suspension baths. Applied Materials Today, 2023, 30, 101729.	2.3	3
826	Additive manufacturing of Schwann cell-laden collagen/alginate nerve guidance conduits by freeform reversible embedding regulate neurogenesis via exosomes secretion towards peripheral nerve regeneration. , 2023, 146, 213276.		11
827	Low-Cost Light-Based GelMA 3D Bioprinting via Retrofitting: Manufacturability Test and Cell Culture Assessment. Micromachines, 2023, 14, 55.	1.4	6
828	Development of a high-performance open-source 3D bioprinter. Scientific Reports, 2022, 12, .	1.6	10
829	3D printing families: laser, powder, and nozzle-based techniques. , 2023, , 29-57.		2

#	Article	IF	Citations
830	Fabrication and Characterization Techniques of In Vitro 3D Tissue Models. International Journal of Molecular Sciences, 2023, 24, 1912.	1.8	6
831	(Bio)fabrication of microfluidic devices and organs-on-a-chip. , 2023, , 273-336.		2
832	Closed-loop vasculature network design for bioprinting large, solid tissue scaffolds. Biofabrication, 2023, 15, 024104.	3.7	1
833	Application of Hydrogels as Three-Dimensional Bioprinting Ink for Tissue Engineering. Gels, 2023, 9, 88.	2.1	15
834	Nanocomposite Bioprinting for Tissue Engineering Applications. Gels, 2023, 9, 103.	2.1	15
835	3D Bioprinting techniques. , 2023, , 91-145.		2
836	Recent advances in biological pumps as a building block for bioartificial hearts. Frontiers in Bioengineering and Biotechnology, 0, 11, .	2.0	0
838	Optimization of Freeform Reversible Embedding of Suspended Hydrogel Microspheres for Substantially Improved Three-Dimensional Bioprinting Capabilities. Tissue Engineering - Part C: Methods, 2023, 29, 85-94.	1.1	3
839	Patient-specific 3D bioprinting for in situ tissue engineering and regenerative medicine. , 2023, , 149-178.		1
840	Bioprinting of other tissues and organs. , 2023, , 215-245.		0
841	Associative Liquidâ€Inâ€Liquid 3D Printing Techniques for Freeform Fabrication of Soft Matter. Small, 2023, 19, .	5.2	13
842	In situ 3D bioprinting: A promising technique in advanced biofabrication strategies. Bioprinting, 2023, 31, e00260.	2.9	7
843	Green Chemistry case study on additive manufacturing. , 2023, , 89-139.		0
844	Physics problems in bio or bioinspired additive manufacturing. Bio-Design and Manufacturing, 2023, 6, 99-102.	3.9	0
846	Angiogenesis driven extracellular matrix remodeling of 3D bioprinted vascular networks. Bioprinting, 2023, 30, e00258.	2.9	1
847	Expanding Embedded 3D Bioprinting Capability for Engineering Complex Organs with Freeform Vascular Networks. Advanced Materials, 2023, 35, .	11.1	23
848	3D-bioprinted cardiac tissues and their potential for disease modeling. Journal of 3D Printing in Medicine, 2023, 7, .	1.0	1
849	Vat photopolymerization bioprinting with a dynamic support bath. Additive Manufacturing, 2023, 69, 103533.	1.7	3

#	Article	IF	Citations
850	Application of gel suspension printing system in 3D bio-printing. Materials Letters, 2023, 341, 134235.	1.3	3
851	Design aspects and characterization of hydrogel-based bioinks for extrusion-based bioprinting. Bioprinting, 2023, 32, e00274.	2.9	8
852	The gastroesophageal junction â€" A gap in tissue engineering. Journal of Immunology and Regenerative Medicine, 2023, 20, 100073.	0.2	0
853	Linguistic Analysis Identifies Emergent Biomaterial Fabrication Trends for Orthopaedic Applications. Advanced Healthcare Materials, 2023, 12, .	3.9	4
854	Extraction and Purification of Collagen from the Jellyfish Catostylus mosaicus of the Persian Gulf. Iranian South Medical Journal, 2021, 24, 88-100.	0.2	0
855	3D printed tissue models: From hydrogels to biomedical applications. Journal of Controlled Release, 2023, 354, 726-745.	4.8	8
856	Nonplanar 3D Printing of Epoxy Using Freeform Reversible Embedding. Advanced Materials Technologies, 2023, 8, .	3.0	5
857	Neural modulation with photothermally active nanomaterials. , 2023, 1, 193-207.		15
858	Engineering Hydrogels for Modulation of Dendritic Cell Function. Gels, 2023, 9, 116.	2.1	3
859	Collagen-based bioinks for regenerative medicine: Fabrication, application and prospective. Medicine in Novel Technology and Devices, 2023, 17, 100211.	0.9	8
860	Biomanufacturing of biomimetic three-dimensional nanofibrous multicellular constructs for tissue regeneration. Colloids and Surfaces B: Biointerfaces, 2023, 223, 113189.	2.5	4
861	Enzymatically Crosslinked Collagen as a Versatile Matrix for In Vitro and In Vivo Coâ€Engineering of Blood and Lymphatic Vasculature. Advanced Materials, 2023, 35, .	11.1	6
862	Preliminary Application Research of 3D Bioprinting in Craniofacial Reconstruction. Journal of Craniofacial Surgery, 2023, 34, 805-808.	0.3	1
863	Egg white improves the biological properties of an alginate-methylcellulose bioink for 3D bioprinting of volumetric bone constructs. Biofabrication, 2023, 15, 025013.	3.7	9
864	Building Blood Vessel Chips with Enhanced Physiological Relevance. Advanced Materials Technologies, 2023, 8, .	3.0	2
865	Polymeric Materials, Advances and Applications in Tissue Engineering: A Review. Bioengineering, 2023, 10, 218.	1.6	17
866	Patient-Specific 3D-Printed Models in Pediatric Congenital Heart Disease. Children, 2023, 10, 319.	0.6	6
867	The Exciting Realities and Possibilities of iPS-Derived Cardiomyocytes. Bioengineering, 2023, 10, 237.	1.6	4

#	Article	IF	Citations
869	Covalently Grafted Biomimetic Matrix Reconstructs the Regenerative Microenvironment of the Porous Gradient Polycaprolactone Scaffold to Accelerate Bone Remodeling. Small, 2023, 19, .	5.2	7
870	Advanced supramolecular design for direct ink writing of soft materials. Chemical Society Reviews, 2023, 52, 1614-1649.	18.7	25
871	Intrinsically cryopreservable, bacteriostatic, durable glycerohydrogel inks for 3D bioprinting. Matter, 2023, 6, 983-999.	5.0	6
872	â€œOutâ€ofâ€theâ€boxâ€•Granular Gel Bath Based on Cationic Polyvinyl Alcohol Microgels for Embedded Extrusion Printing. Macromolecular Rapid Communications, 2023, 44, .	2.0	5
873	Alliance of Heart and Endoderm: Multilineage Organoids to Model Co-development. Circulation Research, 2023, 132, 511-518.	2.0	2
874	å…‰å›ºåŒ–ç”Ÿç‰©3Dæ‰“å°ç”¨ç©¶è¿›å±•åŠå…¶åœ¨ç”Ÿç‰©åŒ»è¯é¢†åŸŸçš„åº”ç”¨. Scientia Sinica Chimica, 2023, , .	0.2	0
875	Combining Cell Technologies With Biomimetic Tissue Engineering Applications: A New Paradigm for Translational Cardiovascular Therapies. Stem Cells Translational Medicine, 2023, 12, 72-82.	1.6	0
876	(Bio)printing in Personalized Medicineâ€"Opportunities and Potential Benefits. Bioengineering, 2023, 10, 287.	1.6	11
877	Convergence of 3D Bioprinting and Nanotechnology in Tissue Engineering Scaffolds. Biomimetics, 2023, 8, 94.	1.5	11
878	Pediatric pulmonary valve replacements: Clinical challenges and emerging technologies. Bioengineering and Translational Medicine, 2023, 8, .	3.9	4
879	A mixed reality system combining augmented reality, 3D bio-printed physical environments and inertial measurement unit sensors for task planning. Virtual Reality, 2023, 27, 1845-1858.	4.1	2
880	Development of stimuli-responsive nanogels as drug carriers and their biomedical application in 3D printing. Materials Today Chemistry, 2023, 29, 101372.	1.7	6
881	Application of Collagen-Based Hydrogel in Skin Wound Healing. Gels, 2023, 9, 185.	2.1	19
882	3D Bioprinting of Induced Pluripotent Stem Cells and Disease Modeling. Handbook of Experimental Pharmacology, 2023, , .	0.9	0
883	Realizations of vascularized tissues: From <i>in vitro</i> platforms to <i>in vivo</i> grafts. Biophysics Reviews, 2023, 4, 011308.	1.0	2
884	A handheld bioprinter for multi-material printing of complex constructs. Biofabrication, 2023, 15, 035012.	3.7	4
886	Direct 3D printing of a two-part silicone resin to fabricate highly stretchable structures. Progress in Additive Manufacturing, 2023, 8, 1555-1571.	2.5	6
887	Nano-based 3D-printed biomaterials for regenerative and translational medicine applications. , 2023, , 483-499.		0

#	Article	IF	Citations
888	Vascularized organ bioprinting: From strategy to paradigm. Cell Proliferation, 2023, 56, .	2.4	7
889	Granular Ionogel Particle Inks for 3D Printed Tough and Stretchable Ionotronics. Research, 2023, 6, .	2.8	3
890	3D Bioprinting of Hyaline Cartilage Using Nasal Chondrocytes. Annals of Biomedical Engineering, 0, , .	1.3	3
891	Bioprinting of light-crosslinkable neutral-dissolved collagen to build implantable connective tissue with programmable cellular orientation. Biofabrication, 2023, 15, 035007.	3.7	4
892	Electrical Stimulation Promotes the Vascularization and Functionalization of an Engineered Biomimetic Human Cardiac Tissue. Advanced Healthcare Materials, 2023, 12, .	3.9	7
893	Dynamic mechanobiology of cardiac cells and tissues: Current status and future perspective. Biophysics Reviews, 2023, 4, .	1.0	6
896	Biofunctionalized 3D printed structures for biomedical applications: A critical review of recent advances and future prospects. Progress in Materials Science, 2023, 137, 101124.	16.0	6
897	Synthesis of easily-processable collagen bio-inks using ionic liquid for 3D bioprinted liver tissue models with branched vascular networks. Science China Chemistry, 2023, 66, 1489-1499.	4.2	1
898	3D bioprinting of dynamic hydrogel bioinks enabled by small molecule modulators. Science Advances, 2023, 9, .	4.7	12
900	Study of hydrogel materials thermophysical properties. Thermal Science, 2023, , 71-71.	0.5	0
901	Soft Hydrogel Shapeability via Supportive Bath Matching in Embedded 3D Printing. Advanced Materials Technologies, 2023, 8, .	3.0	7
902	Comparative analysis of the residues of granular support bath materials on printed structures in embedded extrusion printing. Biofabrication, 2023, 15, 035013.	3.7	4
903	Emerging silk fibroin materials and their applications: New functionality arising from innovations in silk crosslinking. Materials Today, 2023, 65, 244-259.	8.3	12
904	The Present Clinical Treatment and Future Emerging Interdisciplinary for Heart Failure: Where we are and What we can do. Intensive Care Research, 2023, 3, 3-11.	0.2	3
912	Supramolecular assemblies of multifunctional microgels for biomedical applications. Journal of Materials Chemistry B, 2023, 11, 6265-6289.	2.9	3
917	Engineering Dynamic 3D Models of Lung. Advances in Experimental Medicine and Biology, 2023, , 155-189.	0.8	0
918	Understanding and Engineering the Pulmonary Vasculature. Advances in Experimental Medicine and Biology, 2023, , 247-264.	0.8	0
929	The Structure and Function of Living Organisms. , 2023, , 1-52.		0

#	Article	IF	Citations
940	Tissue Engineering and Regenerative Medicine in Hypospadias Management. , 2023, , 127-136.		1
949	3D Printing of Multicomponent Hydrogels for Biomedical Applications. , 2023, , 231-287.		0
952	Protein-Based Microfluidic Models for Biomedical Applications. , 2023, , 1-28.		0
962	Proteins and Polypeptides as Biomaterials Inks for 3D Printing. , 2023, , 1-34.		0
963	Advanced strategies in the application of gelatin-based bioink for extrusion bioprinting. Bio-Design and Manufacturing, 2023, 6, 586-608.	3.9	5
966	Cardiac organoid: multiple construction approaches and potential applications. Journal of Materials Chemistry B, 0, , .	2.9	2
975	3D printed microstructured ultra-sensitive pressure sensors based on microgel-reinforced double network hydrogels for biomechanical applications. Materials Horizons, 2023, 10, 4232-4242.	6.4	10
978	Application of 4D printing and bioprinting in cardiovascular tissue engineering. Biomaterials Science, 2023, 11, 6403-6420.	2.6	4
982	FRESH-Printing of a Multi-actuator Biodegradable Robot Arm for Articulation and Grasping. Lecture Notes in Computer Science, 2023, , 130-141.	1.0	0
993	Peptide Bionanomaterials Global Market: The Future of Emerging Industry. , 2023, , 539-555.		0
996	Nanomaterial scaffolds for cardiovascular tissue engineering. , 2023, , 511-535.		0
997	3D Bioprinting of Cultured Meat: A Promising Avenue of Meat Production. Food and Bioprocess Technology, 0, , .	2.6	2
1004	Organ bioprinting: progress, challenges and outlook. Journal of Materials Chemistry B, 2023, 11, 10263-10287.	2.9	0
1005	A dive into the bath: embedded 3D bioprinting of freeform <i>in vitro</i> models. Biomaterials Science, 2023, 11, 5462-5473.	2.6	1
1041	Developments of additive manufacturing and 5D printing in tissue engineering. Journal of Materials Research, 2023, 38, 4692-4725.	1.2	2
1042	Intelligent Vascularized 3D/4D/5D/6D-Printed Tissue Scaffolds. Nano-Micro Letters, 2023, 15, .	14.4	5
1080	Silk for cardiac tissue engineering. , 2024, , 567-600.		0
1086	Bioprinting as a fabrication method for cultivated meat. , 2024, , 189-202.		0

#	Article	IF	Citations
1087	Three-dimensional printing in biotechnology: techniques and applications. , 2024, , 1-29.		0
1095	Science and Technology of Collagen. , 2023, , 1-43.		0