Advances in organ-on-a-chip engineering

Nature Reviews Materials

3, 257-278

DOI: 10.1038/s41578-018-0034-7

Citation Report

#	Article	IF	Citations
1	Application of a Microfluidic-Based Model of a Human Prostate Gland for Cancer Research. , 2018, , .		2
2	Deconstructing Immune Microenvironments of Lymphoid Tissues for Reverse Engineering. Advanced Healthcare Materials, 2019, 8, e1801126.	3.9	12
3	Curvature facilitates podocyte culture in a biomimetic platform. Lab on A Chip, 2018, 18, 3112-3128.	3.1	22
4	Engineered materials for organoid systems. Nature Reviews Materials, 2019, 4, 606-622.	23.3	251
5	The emergence of 3D bioprinting in organ-on-chip systems. Progress in Biomedical Engineering, 2019, 1, 012001.	2.8	67
6	Inhibition of Liver Tumor Cell Metastasis by Partially Acetylated Chitosan Oligosaccharide on A Tumor-Vessel Microsystem. Marine Drugs, 2019, 17, 415.	2.2	21
7	In vitro disease models 4.0 via automation and high-throughput processing. Biofabrication, 2019, 11, 043002.	3.7	20
8	A healthy dose of chaos: Using fractal frameworks for engineering higher-fidelity biomedical systems. Biomaterials, 2019, 219, 119363.	5.7	28
9	Advances in Hydrogels in Organoids and Organsâ€onâ€aâ€Chip. Advanced Materials, 2019, 31, e1902042.	11.1	212
10	Stem cell based human organ-on-a-chip models for drug discovery and development. Advanced Drug Delivery Reviews, 2019, 140, 1-2.	6.6	3
11	High-Performance Flexible Ultraviolet Photodetectors with Ni/Cu-Codoped ZnO Nanorods Grown on PET Substrates. Nanomaterials, 2019, 9, 1067.	1.9	37
12	Tissue Papers: Leveraging Paper-Based Microfluidics for the Next Generation of 3D Tissue Models. Analytical Chemistry, 2019, 91, 10916-10926.	3.2	31
13	Combining Mathematical Models With Experimentation to Drive Novel Mechanistic Insights Into Macrophage Function. Frontiers in Immunology, 2019, 10, 1283.	2.2	10
14	Microfluidic Brain-on-a-Chip: Perspectives for Mimicking Neural System Disorders. Molecular Neurobiology, 2019, 56, 8489-8512.	1.9	84
15	Recent progress in lab-on-a-chip for pharmaceutical analysis and pharmacological/toxicological test. TrAC - Trends in Analytical Chemistry, 2019, 117, 215-230.	5.8	49
16	Methods of Delivering Mechanical Stimuli to Organ-on-a-Chip. Micromachines, 2019, 10, 700.	1.4	101
17	Engineered Liver-on-a-Chip Platform to Mimic Liver Functions and Its Biomedical Applications: A Review. Micromachines, 2019, 10, 676.	1.4	144
18	hiPSCs Derived Cardiac Cells for Drug and Toxicity Screening and Disease Modeling: What Micro-Electrode-Array Analyses Can Tell Us. Cells, 2019, 8, 1331.	1.8	51

#	Article	IF	Citations
19	The NIH microphysiological systems program: developing in vitro tools for safety and efficacy in drug development. Current Opinion in Pharmacology, 2019, 48, 146-154.	1.7	34
20	Enhancement and control of neuron adhesion on polydimethylsiloxane for cell microengineering using a functionalized triblock polymer. Lab on A Chip, 2019, 19, 3162-3167.	3.1	12
21	Interstitial Flow Recapitulates Gemcitabine Chemoresistance in A 3D Microfluidic Pancreatic Ductal Adenocarcinoma Model by Induction of Multidrug Resistance Proteins. International Journal of Molecular Sciences, 2019, 20, 4647.	1.8	32
22	The Applications of Lattice Light-sheet Microscopy for Functional Volumetric Imaging of Hippocampal Neurons in a Three-Dimensional Culture System. Micromachines, 2019, 10, 599.	1.4	7
23	Yeast glucan particles enable intracellular protein delivery inDrosophilawithout compromising the immune system. Biomaterials Science, 2019, 7, 4708-4719.	2.6	13
24	Advanced in vitro lung-on-chip platforms for inhalation assays: From prospect to pipeline. European Journal of Pharmaceutics and Biopharmaceutics, 2019, 144, 11-17.	2.0	53
25	Influence of Culture Conditions on Cell Proliferation in a Microfluidic Channel. Analytical Sciences, 2019, 35, 49-56.	0.8	10
26	Human organotypic lymphatic vessel model elucidates microenvironment-dependent signaling and barrier function. Biomaterials, 2019, 214, 119225.	5.7	61
27	Organoids-on-a-chip. Science, 2019, 364, 960-965.	6.0	495
28	Self-aligning Tetris-Like (TILE) modular microfluidic platform for mimicking multi-organ interactions. Lab on A Chip, 2019, 19, 2178-2191.	3.1	64
29	Recent advances in microfluidic technologies for organ-on-a-chip. TrAC - Trends in Analytical Chemistry, 2019, 117, 146-156.	5.8	61
30	Cell-Based Assays on Microfluidics for Drug Screening. ACS Sensors, 2019, 4, 1465-1475.	4.0	44
31	Integrated cancer tissue engineering models for precision medicine. PLoS ONE, 2019, 14, e0216564.	1.1	57
32	Microfluidic Fabrication of Biomimetic Helical Hydrogel Microfibers for Bloodâ€Vesselâ€onâ€aâ€Chip Applications. Advanced Healthcare Materials, 2019, 8, e1900435.	3.9	53
33	Tubing-Free Microfluidic Microtissue Culture System Featuring Gradual, in vivo-Like Substance Exposure Profiles. Frontiers in Bioengineering and Biotechnology, 2019, 7, 72.	2.0	15
34	Biologically inspired approaches to enhance human organoid complexity. Development (Cambridge), 2019, 146, .	1.2	68
35	Integration of Technologies for Bone Tissue Engineering. , 2019, , .		3
36	Mimicking the Articular Joint with In Vitro Models. Trends in Biotechnology, 2019, 37, 1063-1077.	4.9	27

#	Article	IF	Citations
37	Validation of a Vasculogenesis Microfluidic Model for Radiobiological Studies of the Human Microvasculature. Advanced Materials Technologies, 2019, 4, 1800726.	3.0	23
38	Engineering Microfluidic Organoid-on-a-Chip Platforms. Micromachines, 2019, 10, 165.	1.4	153
39	Consideration of the Mechanical Properties of Hydrogels for Brain Tissue Engineering and Brain-on-a-chip. Biochip Journal, 2019, 13, 8-19.	2.5	49
40	Monitoring of Microphysiological Systems: Integrating Sensors and Real-Time Data Analysis toward Autonomous Decision-Making. ACS Sensors, 2019, 4, 1454-1464.	4.0	38
41	Wearable and Implantable Devices for Cardiovascular Healthcare: from Monitoring to Therapy Based on Flexible and Stretchable Electronics. Advanced Functional Materials, 2019, 29, 1808247.	7.8	345
42	Bio-inspired intelligent structural color materials. Materials Horizons, 2019, 6, 945-958.	6.4	213
43	Lab-on-a-brane for spheroid formation. Biofabrication, 2019, 11, 021002.	3.7	4
44	Future Directions: What the Future Holds for TERM. , 2019, , 1-1.		0
45	Cancer Modelingâ€onâ€aâ€Chip with Future Artificial Intelligence Integration. Small, 2019, 15, e1901985.	5.2	73
46	Integrated platform for operating and interrogating organs-on-chips. Analytical Methods, 2019, 11, 5645-5651.	1.3	2
47	Bends in magnetophoretic conductors. AIP Advances, 2019, 9, .	0.6	7
48	Tetrafluoroethylene-Propylene Elastomer for Fabrication of Microfluidic Organs-on-Chips Resistant to Drug Absorption. Micromachines, 2019, 10, 793.	1.4	42
49	Organâ€onâ€aâ€Chip for Cancer and Immune Organs Modeling. Advanced Healthcare Materials, 2019, 8, e1801363.	3.9	111
50	Recent Development of pH-Responsive Polymers for Cancer Nanomedicine. Molecules, 2019, 24, 4.	1.7	157
51	Universal Soft Robotic Microgripper. Small, 2019, 15, e1803870.	5.2	52
52	Engineering microenvironment for human cardiac tissue assembly in heart-on-a-chip platform. Matrix Biology, 2020, 85-86, 189-204.	1.5	70
53	Microfluidic Platforms toward Rational Material Fabrication for Biomedical Applications. Small, 2020, 16, e1903798.	5.2	80
54	Additive Manufacturing of Precision Biomaterials. Advanced Materials, 2020, 32, e1901994.	11.1	105

#	Article	IF	Citations
55	Organ-On-A-Chip Technologies for Advanced Bloodâ€“Retinal Barrier Models. Journal of Ocular Pharmacology and Therapeutics, 2020, 36, 30-41.	0.6	23
56	Advanced Soft Materials, Sensor Integrations, and Applications of Wearable Flexible Hybrid Electronics in Healthcare, Energy, and Environment. Advanced Materials, 2020, 32, e1901924.	11.1	575
57	Requirements for designing organ-on-a-chip platforms to model the pathogenesis of liver disease. , 2020, , 181-213.		2
58	Bioinspired Soft Robotic Caterpillar with Cardiomyocyte Drivers. Advanced Functional Materials, 2020, 30, 1907820.	7.8	81
59	Engineering of Hydrogel Materials with Perfusable Microchannels for Building Vascularized Tissues. Small, 2020, 16, e1902838.	5.2	109
60	Graphene Hybrid Anisotropic Structural Color Film for Cardiomyocytes' Monitoring. Advanced Functional Materials, 2020, 30, 1906353.	7.8	63
61	Towards chamber specific heart-on-a-chip for drug testing applications. Advanced Drug Delivery Reviews, 2020, 165-166, 60-76.	6.6	52
62	Organoid and pluripotent stem cells in Parkinsonâ€™s disease modeling: an expert view on their value to drug discovery. Expert Opinion on Drug Discovery, 2020, 15, 427-441.	2.5	21
63	Injection molded open microfluidic well plate inserts for user-friendly coculture and microscopy. Lab on A Chip, 2020, 20, 107-119.	3.1	20
64	Organs-on-a-chip engineering. , 2020, , 47-130.		11
65	Pluripotent stem cell biology and engineering. , 2020, , 1-31.		0
66	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
67	A Novel Lipidomics-Based Approach to Evaluating the Risk of Clinical Hepatotoxicity Potential of Drugs in 3D Human Microtissues. Chemical Research in Toxicology, 2020, 33, 258-270.	1.7	10
68	Designing Microgels for Cell Culture and Controlled Assembly of Tissue Microenvironments. Advanced Functional Materials, 2020, 30, 1907670.	7.8	58
69	Global Trends of Organoid and Organ-On-a-Chip in the Past Decade: A Bibliometric and Comparative Study. Tissue Engineering - Part A, 2020, 26, 656-671.	1.6	36
70	Organ-on-a-disc: A platform technology for the centrifugal generation and culture of microphysiological 3D cell constructs amenable for automation and parallelization. APL Bioengineering, 2020, 4, 046101.	3.3	12
71	Extracellular Vesicles in Cardiac Regeneration: Potential Applications for Tissues-on-a-Chip. Trends in Biotechnology, 2021, 39, 755-773.	4.9	18
72	Advances in Label-Free Detections for Nanofluidic Analytical Devices. Micromachines, 2020, 11, 885.	1.4	18

#	Article	IF	Citations
73	Engineering Three-Dimensional Tumor Models to Study Glioma Cancer Stem Cells and Tumor Microenvironment. Frontiers in Cellular Neuroscience, 2020, 14, 558381.	1.8	38
74	Unlocking the future: converging multi-organ-on-a-chip on the current biomedical sciences. Emergent Materials, 2020, 3, 693-709.	3.2	5
75	Fabrication of a 3D microfluidic cell culture device for bone marrow-on-a-chip. Micro and Nano Engineering, 2020, 9, 100075.	1.4	17
76	Variable Tumor Microenvironment-on-a-chip with Temporal Angiogenic Switching System by Diffusion Control*. , 2020, 2020, 2227-2230.		0
77	Organoid models in gynaecological oncology research. Cancer Treatment Reviews, 2020, 90, 102103.	3.4	20
78	Recapitulating atherogenic flow disturbances and vascular inflammation in a perfusable 3D stenosis model. Biofabrication, 2020, 12, 045009.	3.7	22
79	Human Organs-on-Chips for Virology. Trends in Microbiology, 2020, 28, 934-946.	3.5	81
80	Organ-on-a-chip engineering: Toward bridging the gap between lab and industry. Biomicrofluidics, 2020, 14, 041501.	1.2	54
81	Animal Surgery and Care of Animals. , 2020, , 899-915.		0
82	Technical Advancements for Studying Immune Regulation of Disseminated Dormant Cancer Cells. Frontiers in Oncology, 2020, 10, 594514.	1.3	10
83	Pancreas-on-a-Chip Technology for Transplantation Applications. Current Diabetes Reports, 2020, 20, 72.	1.7	23
84	Intelligent Microfluidics: The Convergence of Machine Learning and Microfluidics in Materials Science and Biomedicine. Matter, 2020, 3, 1893-1922.	5.0	85
85	A Prominent Cell Manipulation Technique in BioMEMS: Dielectrophoresis. Micromachines, 2020, 11, 990.	1.4	21
86	Newly emerged engineering of in vitro 3D tumor models using biomaterials for chemotherapy. , 2020, , 533-550.		0
87	Integrated Multi-stakeholder Systems Thinking Strategy: Decision-making with Biopharmaceutics Risk Assessment Roadmap (BioRAM) to Optimize Clinical Performance of Drug Products. AAPS Journal, 2020, 22, 97.	2.2	7
88	In vitro relevant information for the assessment of nanoparticles for oral drug administration. , 2020, , 419-458.		3
89	Reconfigurable Microphysiological Systems for Modeling Innervation and Multitissue Interactions. Advanced Biology, 2020, 4, e2000133.	3.0	11
90	Microfluidic lumen-based systems for advancing tubular organ modeling. Chemical Society Reviews, 2020, 49, 6402-6442.	18.7	54

#	Article	IF	Citations
91	3D Bioprinting of Tumor Models for Cancer Research. ACS Applied Bio Materials, 2020, 3, 5552-5573.	2.3	63
92	Biomedical Application of Functional Materials in Organ-on-a-Chip. Frontiers in Bioengineering and Biotechnology, 2020, 8, 823.	2.0	40
93	Microenvironment-Controlled Micropatterned Microfluidic Model (MMMM) for Biomimetic In Situ Studies. ACS Nano, 2020, 14, 9861-9872.	7.3	37
94	Tissue-in-a-Tube: three-dimensional in vitro tissue constructs with integrated multimodal environmental stimulation. Materials Today Bio, 2020, 7, 100070.	2.6	5
95	Intestinal Organoid Culture in Polymer Filmâ€Based Microwell Arrays. Advanced Biology, 2020, 4, e2000126.	3.0	22
96	Enhanced predictive capacity using dual-parameter chip model that simulates physiological skin irritation. Toxicology in Vitro, 2020, 68, 104955.	1.1	14
97	3D bioprinting for reconstituting the cancer microenvironment. Npj Precision Oncology, 2020, 4, 18.	2.3	163
98	An Alternative Perspective towards Reducing the Risk of Engineered Nanomaterials to Human Health. Small, 2020, 16, e2002002.	5.2	17
99	Hele Shaw microfluidic device: A new tool for systematic investigation into the effect of the fluid shear stress for organs-on-chips. MethodsX, 2020, 7, 100980.	0.7	5
100	From fatty hepatocytes to impaired bile flow: Matching model systems for liver biology and disease. Biochemical Pharmacology, 2020, 180, 114173.	2.0	7
101	Screening Cancer Immunotherapy: When Engineering Approaches Meet Artificial Intelligence. Advanced Science, 2020, 7, 2001447.	5.6	30
102	Investigating CaOx Crystal Formation in the Absence and Presence of Polyphenols under Microfluidic Conditions in Relation with Nephrolithiasis. Crystal Growth and Design, 2020, 20, 7683-7693.	1.4	6
103	Multicellular systems to translate somatic cell genome editors to human. Current Opinion in Biomedical Engineering, 2020, 16, 72-81.	1.8	1
104	Biomaterials for Bioprinting Microvasculature. Chemical Reviews, 2020, 120, 10887-10949.	23.0	51
105	Hostâ€“microbiota maladaptation in colorectal cancer. Nature, 2020, 585, 509-517.	13.7	230
106	Microphysiological Systems for Neurodegenerative Diseases in Central Nervous System. Micromachines, 2020, 11, 855.	1.4	10
107	Real time monitoring of oxygen uptake of hepatocytes in a microreactor using optical microsensors. Scientific Reports, 2020, 10, 13700.	1.6	9
108	Advances in Functional Polymer Nanofibers: From Spinning Fabrication Techniques to Recent Biomedical Applications. ACS Applied Materials & Interfaces, 2020, 12, 45673-45701.	4.0	144

#	Article	IF	Citations
109	A Miniaturized EHT Platform for Accurate Measurements of Tissue Contractile Properties. Journal of Microelectromechanical Systems, 2020, 29, 881-887.	1.7	27
110	3D In Vitro Human Organ Mimicry Devices for Drug Discovery, Development, and Assessment. Advances in Polymer Technology, 2020, 2020, 1-41.	0.8	6
111	Chitosanâ€“polydopamine hydrogel complex: a novel green adhesion agent for reversibly bonding thermoplastic microdevice and its application for cell-friendly microfluidic 3D cell culture. Lab on A Chip, 2020, 20, 3524-3534.	3.1	20
112	Surfaceâ€Functionalized Selfâ€Standing Microdevices Exhibit Predictive Localization and Seamless Integration in 3D Neural Spheroids. Advanced Biology, 2020, 4, 2000114.	3.0	7
113	A Purpose in Liquidity: Perfusing 3D Open Scaffolds Improves â€œMini-gutâ€•Morphogenesis and Longevity. Cell Stem Cell, 2020, 27, 699-701.	5.2	2
114	High throughput physiological micro-models for in vitro pre-clinical drug testing: a review of engineering systems approaches. Progress in Biomedical Engineering, 2020, 2, 022001.	2.8	12
115	Organ-on-a-Chip: Opportunities for Assessing the Toxicity of Particulate Matter. Frontiers in Bioengineering and Biotechnology, 2020, 8, 519.	2.0	36
116	Biohybrid robotics with living cell actuation. Chemical Society Reviews, 2020, 49, 4043-4069.	18.7	105
117	Dynamic peptide-folding mediated biofunctionalization and modulation of hydrogels for 4D bioprinting. Biofabrication, 2020, 12, 035031.	3.7	41
118	Patterning of Particles and Live Cells at Single Cell Resolution. Micromachines, 2020, 11, 505.	1.4	5
119	A primary neural cell culture model to study neuron, astrocyte, and microglia interactions in neuroinflammation. Journal of Neuroinflammation, 2020, 17, 155.	3.1	121
120	h-FIBER: Microfluidic Topographical Hollow Fiber for Studies of Glomerular Filtration Barrier. ACS Central Science, 2020, 6, 903-912.	5.3	59
121	A review on microfluidics manipulation of the extracellular chemical microenvironment and its emerging application to cell analysis. Analytica Chimica Acta, 2020, 1125, 94-113.	2.6	40
122	Organoids and Bioengineered Intestinal Models: Potential Solutions to the Cryptosporidium Culturing Dilemma. Microorganisms, 2020, 8, 715.	1.6	22
123	Microphysiological Systems: Design, Fabrication, and Applications. ACS Biomaterials Science and Engineering, 2020, 6, 3231-3257.	2.6	32
124	Towards systems tissue engineering: Elucidating the dynamics, spatial coordination, and individual cells driving emergent behaviors. Biomaterials, 2020, 255, 120189.	5.7	8
125	Tissue engineering of the biliary tract and modelling of cholestatic disorders. Journal of Hepatology, 2020, 73, 918-932.	1.8	14
126	Gut-on-a-chip: Current progress and future opportunities. Biomaterials, 2020, 255, 120196.	5.7	117

#	Article	IF	Citations
127	Evaluation and live monitoring of pH-responsive HSA-ZnO nanoparticles using a lung-on-a-chip model. Archives of Pharmacal Research, 2020, 43, 503-513.	2.7	25
128	Development of Cell Spheroids by Advanced Technologies. Advanced Materials Technologies, 2020, 5, 2000183.	3.0	32
129	Microfluidics as a Novel Tool for Biological and Toxicological Assays in Drug Discovery Processes: Focus on Microchip Electrophoresis. Micromachines, 2020, 11, 593.	1.4	22
130	Microfluidic perfusion modulates growth and motor neuron differentiation of stem cell aggregates. Analyst, The, 2020, 145, 4815-4826.	1.7	4
131	Biomaterials for Sequestration of Growth Factors and Modulation of Cell Behavior. Advanced Functional Materials, 2020, 30, 1909011.	7.8	51
132	3D Pancreatic Tissue Modeling in vitro: Advances and Prospects. Biochip Journal, 2020, 14, 84-99.	2.5	17
133	Utilising NV based quantum sensing for velocimetry at the nanoscale. Scientific Reports, 2020, 10, 5298.	1.6	16
134	Polylactic is a Sustainable, Low Absorption, Low Autofluorescence Alternative to Other Plastics for Microfluidic and Organ-on-Chip Applications. Analytical Chemistry, 2020, 92, 6693-6701.	3.2	50
135	Reconstituted Human Organ Models as a Translational Tool for Human Organ Response: Definition, Expectations, Cases, and Strategies for Implementation in Drug Discovery and Development. Biological and Pharmaceutical Bulletin, 2020, 43, 375-383.	0.6	8
136	Innovations in 3D Tissue Models of Human Brain Physiology and Diseases. Advanced Functional Materials, 2020, 30, 1909146.	7.8	50
137	Advancing human in vitro pulmonary disease models in preclinical research: opportunities for lung-on-chips. Expert Opinion on Drug Delivery, 2020, 17, 621-625.	2.4	19
138	Ultraviolet Photodetection Based on High-Performance Co-Plus-Ni Doped ZnO Nanorods Grown by Hydrothermal Method on Transparent Plastic Substrate. Nanomaterials, 2020, 10, 1225.	1.9	40
139	Engineering in vitro human tissue models through bio-design and manufacturing. Bio-Design and Manufacturing, 2020, 3, 155-159.	3.9	29
140	Modeling the Response of Heart Muscle to Mechanical Stimulation In Vitro. Current Tissue Microenvironment Reports, 2020, 1, 61-72.	1.3	7
141	Single cell migration profiling on a microenvironmentally tunable hydrogel microstructure device that enables stem cell potency evaluation. Lab on A Chip, 2020, 20, 958-972.	3.1	5
142	Biofabrication Strategies and Engineered In Vitro Systems for Vascular Mechanobiology. Advanced Healthcare Materials, 2020, 9, e1901255.	3.9	35
143	Low-cost microphysiological systems: feasibility study of a tape-based barrier-on-chip for small intestine modeling. Lab on A Chip, 2020, 20, 1212-1226.	3.1	33
144	An adaptable soft-mold embossing process for fabricating optically-accessible, microfeature-based culture systems and application toward liver stage antimalarial compound testing. Lab on A Chip, 2020, 20, 1124-1139.	3.1	15

#	Article	IF	Citations
145	3D printing of hydrogels: Rational design strategies and emerging biomedical applications. Materials Science and Engineering Reports, 2020, 140, 100543.	14.8	494
146	Engineering Microphysiological Immune System Responses on Chips. Trends in Biotechnology, 2020, 38, 857-872.	4.9	45
147	In Situ Chemical Monitoring and Imaging of Contents within Microfluidic Devices Having a Porous Membrane Wall Using Liquid Microjunction Surface Sampling Probe Mass Spectrometry. Journal of the American Society for Mass Spectrometry, 2020, 31, 832-839.	1.2	7
148	Threeâ€dimensional in vitro cell culture devices using patientâ€derived cells for highâ€throughput screening of drug combinations. Medical Devices & Sensors, 2020, 3, e10067.	2.7	4
149	Multiplexed Continuous Biosensing by Single-Molecule Encoded Nanoswitches. Nano Letters, 2020, 20, 2296-2302.	4.5	20
150	A mini-panel PET scanner-based microfluidic radiobioassay system allowing high-throughput imaging of real-time cellular pharmacokinetics. Lab on A Chip, 2020, 20, 1110-1123.	3.1	9
151	Engineering Biomaterials with Micro/Nanotechnologies for Cell Reprogramming. ACS Nano, 2020, 14, 1296-1318.	7.3	39
152	Digital Twin: Values, Challenges and Enablers From a Modeling Perspective. IEEE Access, 2020, 8, 21980-22012.	2.6	746
153	Advances of droplet-based microfluidics in drug discovery. Expert Opinion on Drug Discovery, 2020, 15, 969-979.	2.5	34
154	Primary Human Osteoblasts Cultured in a 3D Microenvironment Create a Unique Representative Model of Their Differentiation Into Osteocytes. Frontiers in Bioengineering and Biotechnology, 2020, 8, 336.	2.0	42
155	Hydrogel membranes: A review. Materials Science and Engineering C, 2020, 114, 111023.	3.8	117
156	Engineered reproductive tissues. Nature Biomedical Engineering, 2020, 4, 381-393.	11.6	64
157	Production of Human Pluripotent Stem Cell-Derived Hepatic Cell Lineages and Liver Organoids: Current Status and Potential Applications. Bioengineering, 2020, 7, 36.	1.6	20
158	Unlocking the Potential of Organâ€onâ€Chip Models through Pumpless and Tubeless Microfluidics. Advanced Healthcare Materials, 2020, 9, e1901784.	3.9	20
159	Investigation of Environmental Pollutant-Induced Lung Inflammation and Injury in a 3D Coculture-Based Microfluidic Pulmonary Alveolus System. Analytical Chemistry, 2020, 92, 7200-7208.	3.2	38
160	Recent advances in human iPSC-derived models of the bloodâ€“brain barrier. Fluids and Barriers of the CNS, 2020, 17, 30.	2.4	83
161	Drug Toxicity Evaluation Based on Organ-on-a-chip Technology: A Review. Micromachines, 2020, 11, 381.	1.4	71
162	Alginate Microencapsulation for Three-Dimensional In Vitro Cell Culture. ACS Biomaterials Science and Engineering, 2021, 7, 2864-2879.	2.6	41

#	Article	IF	Citations
163	Process hybridization schemes for multiscale engineered tissue biofabrication. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2021, 13, e1673.	3.3	9
164	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
165	From Model System to Therapy: Scalable Production of Perfusable Vascularized Liver Spheroids in â€œOpen-Topâ€œ 384-Well Plate. ACS Biomaterials Science and Engineering, 2021, 7, 2964-2972.	2.6	15
166	Building three-dimensional lung models for studying pharmacokinetics of inhaled drugs. Advanced Drug Delivery Reviews, 2021, 170, 386-395.	6.6	44
167	Dynamic covalent hydrogels as biomaterials to mimic the viscoelasticity of soft tissues. Progress in Materials Science, 2021, 120, 100738.	16.0	131
168	Let's Talk About Sexâ€”Biological Sex Is Underreported in Biomaterial Studies. Advanced Healthcare Materials, 2021, 10, e2001034.	3.9	26
169	Lab-on-a-chip: Systems integration at the microscale. , 2021, , 63-87.		2
170	A flexible and cost-effective manual droplet operation platform for miniaturized cell assays and single cell analysis. Talanta, 2021, 224, 121874.	2.9	2
171	Imaging microphysiological systems: a review. American Journal of Physiology - Cell Physiology, 2021, 320, C669-C680.	2.1	7
172	Organ-on-a-Chip: A New Paradigm for Drug Development. Trends in Pharmacological Sciences, 2021, 42, 119-133.	4.0	232
173	Bioimage Analysis and Cell Motility. Patterns, 2021, 2, 100170.	3.1	12
174	3D Bioelectronic Model of the Human Intestine. Advanced Biology, 2021, 5, 2000306.	1.4	28
175	Mechanotransduction-on-chip: vessel-chip model of endothelial YAP mechanobiology reveals matrix stiffness impedes shear response. Lab on A Chip, 2021, 21, 1738-1751.	3.1	17
176	Predictive models for nanotoxicology: in vitro, in vivo, and computational models. , 2021, , 683-710.		3
177	An Organ-on-a-Chip System to Study Anaerobic Bacteria in Intestinal Health and Disease. Med, 2021, 2, 16-18.	2.2	0
178	3D cell culture for pharmaceutical application. , 2021, , 261-282.		0
179	3D in vitro co-culture disc for spatiotemporal image analysis of cancerâ€“stromal cell interaction. Biomaterials Science, 2021, 9, 4448-4458.	2.6	3
180	Tissue Chips and Microphysiological Systems for Disease Modeling and Drug Testing. Micromachines, 2021, 12, 139.	1.4	11

#	Article	IF	Citations
181	Recent advances in bionanomaterials for liver cancer diagnosis and treatment. Biomaterials Science, 2021, 9, 4821-4842.	2.6	16
182	Construction of microfluidic bloodâ€“brain barrier model assisted by 3D coculture on cellulose fiber. Microsystem Technologies, 2021, 27, 3917-3926.	1.2	4
183	Simulating drug concentrations in PDMS microfluidic organ chips. Lab on A Chip, 2021, 21, 3509-3519.	3.1	50
184	Future of Liver Transplantation in Children. , 2021, , 465-470.		0
185	â€œOrgan-on-a-chipâ€•based physiologically relevant pharmacokinetic models. , 2021, , 643-673.		2
186	Imaging therapeutic peptide transport across intestinal barriers. RSC Chemical Biology, 2021, 2, 1115-1143.	2.0	10
187	Human brain organoids in Alzheimerâ€™s disease. Organoid, 0, 1, e5.	0.0	7
188	Microfluidic chips for the endothelial biomechanics and mechanobiology of the vascular system. Biocell, 2021, 45, 797-811.	0.4	4
190	Heart Slices to Model Cardiac Physiology. Frontiers in Pharmacology, 2021, 12, 617922.	1.6	12
191	Refining Host-Pathogen Interactions: Organ-on-Chip Side of the Coin. Pathogens, 2021, 10, 203.	1.2	22
192	Plant-Based Scaffolds in Tissue Engineering. ACS Biomaterials Science and Engineering, 2021, 7, 926-938.	2.6	37
193	Colloidal Photonic Crystals for Biomedical Applications. Small Structures, 2021, 2, 2000110.	6.9	47
194	Redesigning the modern applied medical sciences and engineering with shape memory polymers. Advanced Composites and Hybrid Materials, 2021, 4, 223-234.	9.9	32
195	In vitro Models of the Bloodâ€“Brain Barrier: Tools in Translational Medicine. Frontiers in Medical Technology, 2020, 2, 623950.	1.3	43
196	Monitoring Contractile Cardiomyocytes via Impedance Using Multipurpose Thin Film Ruthenium Oxide Electrodes. Sensors, 2021, 21, 1433.	2.1	2
197	Organ-on-a-Chip: The Future of Therapeutic Aptamer Research?. Biochip Journal, 2021, 15, 109.	2.5	16
198	Advancement of Sensor Integrated Organ-on-Chip Devices. Sensors, 2021, 21, 1367.	2.1	60
199	Bioelectrical interfaces with cortical spheroids in three-dimensions. Journal of Neural Engineering, 2021, 18, 055005.	1.8	19

#	Article	IF	Citations
200	Elucidating cancer-vascular paracrine signaling using a human organotypic breast cancer cell extravasation model. Biomaterials, 2021, 270, 120640.	5.7	25
201	Digital Twins for Tissue Culture Techniquesâ€"Concepts, Expectations, and State of the Art. Processes, 2021, 9, 447.	1.3	23
202	Nanoparticle-mediated pulmonary drug delivery: state of the art towards efficient treatment of recalcitrant respiratory tract bacterial infections. Drug Delivery and Translational Research, 2021, 11, 1634-1654.	3.0	33
203	Precision Oncology, Signaling, and Anticancer Agents in Cancer Therapeutics. Anti-Cancer Agents in Medicinal Chemistry, 2022, 22, 433-468.	0.9	7
205	Microfluidics in Sickle Cell Disease Research: State of the Art and a Perspective Beyond the Flow Problem. Frontiers in Molecular Biosciences, 2020, 7, 558982.	1.6	9
206	Micro-scale technologies propel biology and medicine. Biomicrofluidics, 2021, 15, 021302.	1.2	1
207	Stem cells based in vitro models: trends and prospects in biomaterials cytotoxicity studies. Biomedical Materials (Bristol), 2021, 16, 042003.	1.7	19
208	Toward improved in vitro models of human cancer. APL Bioengineering, 2021, 5, 010902.	3.3	30
209	COVID-19 highlights the model dilemma in biomedical research. Nature Reviews Materials, 2021, 6, 374-376.	23.3	13
210	A cellular platform for the development of synthetic living machines. Science Robotics, 2021, 6, .	9.9	86
211	In Vitro Human Joint Models Combining Advanced 3D Cell Culture and Cutting-Edge 3D Bioprinting Technologies. Cells, 2021, 10, 596.	1.8	19
212	Phenotypic screening with target identification and validation in the discovery and development of E3 ligase modulators. Cell Chemical Biology, 2021, 28, 283-299.	2.5	15
213	Scientific Modeling Versus Engineering Modeling: Similarities and Dissimilarities. Journal for General Philosophy of Science, 2021, 52, 455-474.	0.7	2
214	Allâ€Inkjetâ€Printed 3D Alveolar Barrier Model with Physiologically Relevant Microarchitecture. Advanced Science, 2021, 8, 2004990.	5.6	58
216	A well plateâ€"based multiplexed platform for incorporation of organoids into an organ-on-a-chip system with a perfusable vasculature. Nature Protocols, 2021, 16, 2158-2189.	5.5	51
217	3D Tissue Models as an Effective Tool for Studying Viruses and Vaccine Development. Frontiers in Materials, 2021, 8, .	1.2	10
218	Clinical Trial in a Dish. Arteriosclerosis, Thrombosis, and Vascular Biology, 2021, 41, 1019-1031.	1.1	21
219	SARS-CoV-2 induced intestinal responses with a biomimetic human gut-on-chip. Science Bulletin, 2021, 66, 783-793.	4.3	91

#	Article	IF	Citations
220	Pumpless, modular, microphysiological systems enabling tunable perfusion for long-term cultivation of endothelialized lumens. Biomedical Microdevices, 2021, 23, 25.	1.4	8
221	3D Cancer Models: The Need for a Complex Stroma, Compartmentalization and Stiffness. Frontiers in Bioengineering and Biotechnology, 2021, 9, 660502.	2.0	58
222	The Present and Future Role of Microfluidics for Protein and Peptide-Based Therapeutics and Diagnostics. Applied Sciences (Switzerland), 2021, 11, 4109.	1.3	12
223	Rebuilding the Vascular Network: In vivo and in vitro Approaches. Frontiers in Cell and Developmental Biology, 2021, 9, 639299.	1.8	22
224	Using 3D in vitro cell culture models in anti-cancer drug discovery. Expert Opinion on Drug Discovery, 2021, 16, 841-850.	2.5	16
225	Glioma-on-a-Chip Models. Micromachines, 2021, 12, 490.	1.4	19
226	Patientâ€Specific Organoid and Organâ€onâ€aâ€Chip: 3D Cellâ€Culture Meets 3D Printing and Numerical Simulation. Advanced Biology, 2021, 5, e2000024.	1.4	31
227	Engineering Cardiovascular Tissue Chips for Disease Modeling and Drug Screening Applications. Frontiers in Bioengineering and Biotechnology, 2021, 9, 673212.	2.0	3
228	Organâ€onâ€chip to investigate hostâ€pathogens interactions. Cellular Microbiology, 2021, 23, e13336.	1.1	17
229	Drawing Inspiration from Developmental Biology for Cardiac Tissue Engineers. Advanced Biology, 2021, 5, 2000190.	1.4	4
230	On-chip electrocatalytic NO sensing using ruthenium oxide nanorods. Sensors and Actuators B: Chemical, 2021, 334, 129631.	4.0	10
231	Microfluidics for Drug Development: From Synthesis to Evaluation. Chemical Reviews, 2021, 121, 7468-7529.	23.0	95
232	Facile Patterning of Thermoplastic Elastomers and Robust Bonding to Glass and Thermoplastics for Microfluidic Cell Culture and Organ-on-Chip. Micromachines, 2021, 12, 575.	1.4	21
233	Emerging Brainâ€Pathophysiologyâ€Mimetic Platforms for Studying Neurodegenerative Diseases: Brain Organoids and Brainsâ€onâ€aâ€Chip. Advanced Healthcare Materials, 2021, 10, e2002119.	3.9	27
234	Recurrent Urinary Tract Infection: A Mystery in Search of Better Model Systems. Frontiers in Cellular and Infection Microbiology, 2021, 11, 691210.	1.8	46
236	Activeâ€matrix mesh electronics thinâ€filmâ€transistor arrays for biometricsâ€underâ€display and biomedical applications. Journal of the Society for Information Display, 2021, 29, 390-404.	0.8	3
237	Compliant 3D frameworks instrumented with strain sensors for characterization of millimeter-scale engineered muscle tissues. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	30
238	Designing Hydrogel-Based Bone-On-Chips for Personalized Medicine. Applied Sciences (Switzerland), 2021, 11, 4495.	1.3	12

#	Article	IF	Citations
239	Additive manufacturing of a 3D vascular chip based on cytocompatible hydrogel. European Polymer Journal, 2021, 151, 110451.	2.6	6
240	Breaking the Third Wall: Implementing 3D-Printing Techniques to Expand the Complexity and Abilities of Multi-Organ-on-a-Chip Devices. Micromachines, 2021, 12, 627.	1.4	23
241	Design Challenges in Polymeric Scaffolds for Tissue Engineering. Frontiers in Bioengineering and Biotechnology, 2021, 9, 617141.	2.0	82
242	Gut-on-a-chip: Mimicking and monitoring the human intestine. Biosensors and Bioelectronics, 2021, 181, 113156.	5.3	58
243	Bioengineering strategies to control epithelial-to-mesenchymal transition for studies of cardiac development and disease. APL Bioengineering, 2021, 5, 021504.	3.3	3
245	Microelectromechanical Organs-on-Chip. , 2021, , .		3
246	Sexâ€Specific Response to Combinations of Shear Stress and Substrate Stiffness by Endothelial Cells In Vitro. Advanced Healthcare Materials, 2021, 10, e2100735.	3.9	12
247	Magnetic soft micromachines made of linked microactuator networks. Science Advances, 2021, 7, .	4.7	57
248	Nanoâ€•and Microscale Optical and Electrical Biointerfaces and Their Relevance to Energy Research. Small, 2021, 17, e2100165.	5.2	7
249	Tumor-on-a-chip: from bioinspired design to biomedical application. Microsystems and Nanoengineering, 2021, 7, 50.	3.4	103
250	Lab-on-a-Chip Platforms as Tools for Drug Screening in Neuropathologies Associated with Bloodâ€“Brain Barrier Alterations. Biomolecules, 2021, 11, 916.	1.8	21
251	Three-Dimensional Cell Cultures as a Research Platform in Lung Diseases and COVID-19. Tissue Engineering and Regenerative Medicine, 2021, 18, 735-745.	1.6	10
253	Immunocompetent cancer-on-chip models to assess immuno-oncology therapy. Advanced Drug Delivery Reviews, 2021, 173, 281-305.	6.6	38
254	Multilayered Microfluidic Device for Controllable Flow Perfusion of Gut-Liver on a Chip. , 2021, , .		1
255	Beyond PDMS and Membranes: New Materials for Organ-on-a-Chip Devices. ACS Biomaterials Science and Engineering, 2021, 7, 2861-2863.	2.6	23
256	Multi-compartment Organ-on-a-Chip Based on Electrospun Nanofiber Membrane as In Vitro Jaundice Disease Model. Advanced Fiber Materials, 2021, 3, 383-393.	7.9	16
257	A Microfluidic 3D Endothelium-on-a-Chip Model to Study Transendothelial Migration of T Cells in Health and Disease. International Journal of Molecular Sciences, 2021, 22, 8234.	1.8	29
258	Microfluidic technologies for drug discovery and development: friend or foe?. Trends in Pharmacological Sciences, 2021, 42, 518-526.	4.0	21

#	Article	IF	Citations
259	Emerging Technologies for In Vitro Inhalation Toxicology. Advanced Healthcare Materials, 2021, 10, e2100633.	3.9	34
261	Mechanomaterials: A Rational Deployment of Forces and Geometries in Programming Functional Materials. Advanced Materials, 2021, 33, e2007977.	11.1	34
262	Early invasion of the bladder wall by solitary bacteria protects UPEC from antibiotics and neutrophil swarms in an organoid model. Cell Reports, 2021, 36, 109351.	2.9	13
263	Development of a multiparametric (bio)sensing platform for continuous monitoring of stress metabolites. Talanta, 2021, 229, 122275.	2.9	18
264	Biology and Models of the Bloodâ€“Brain Barrier. Annual Review of Biomedical Engineering, 2021, 23, 359-384.	5.7	68
265	Recent Advances in Microfluidic Platforms for Programming Cellâ€Based Living Materials. Advanced Materials, 2021, 33, e2005944.	11.1	26
266	Organ-on-a-chip technology for nanoparticle research. Nano Convergence, 2021, 8, 20.	6.3	42
267	Approaches for corneal endothelium regenerative medicine. Progress in Retinal and Eye Research, 2022, 87, 100987.	7.3	35
268	A cellular chip-MS system for investigation of Lactobacillus rhamnosus GG and irinotecan synergistic effects on colorectal cancer. Chinese Chemical Letters, 2022, 33, 2096-2100.	4.8	9
269	A review on biomaterials for ovarian tissue engineering. Acta Biomaterialia, 2021, 135, 48-63.	4.1	33
270	Electroconductive biomaterials for cardiac tissue engineering. Acta Biomaterialia, 2022, 139, 118-140.	4.1	61
271	Introduction to bioprinting of in vitro cancer models. Essays in Biochemistry, 2021, 65, 603-610.	2.1	4
273	Microphysiological Systems to Recapitulate the Gutâ€“Kidney Axis. Trends in Biotechnology, 2021, 39, 811-823.	4.9	34
274	3D Bioprinting of Miniaturized Tissues Embedded in Selfâ€Assembled Nanoparticleâ€Based Fibrillar Platforms. Advanced Functional Materials, 2021, 31, .	7.8	21
275	3D Highâ€Content Culturing and Drug Screening Platform to Study Vascularized Hepatocellular Carcinoma in Hypoxic Condition. Advanced NanoBiomed Research, 2021, 1, 2100078.	1.7	3
276	Amphiphilic Copolymers for Versatile, Facile, and In Situ Tunable Surface Biofunctionalization. Advanced Materials, 2021, 33, 2102489.	11.1	5
277	Organ-on-Chip Approaches for Intestinal 3D InÂVitro Modeling. Cellular and Molecular Gastroenterology and Hepatology, 2022, 13, 351-367.	2.3	28
278	An Ultrahigh Sensitive Microwave Microfluidic System for Fast and Continuous Measurements of Liquid Solution Concentrations. Sensors, 2021, 21, 5816.	2.1	2

#	Article	IF	Citations
279	Computational reconstruction of the signalling networks surrounding implanted biomaterials from single-cell transcriptomics. Nature Biomedical Engineering, 2021, 5, 1228-1238.	11.6	40
280	A Gut-Brain Axis-on-a-Chip for studying transport across epithelial and endothelial barriers. Journal of Industrial and Engineering Chemistry, 2021, 101, 126-134.	2.9	26
281	Recent advances in human respiratory epithelium models for drug discovery. Biotechnology Advances, 2022, 54, 107832.	6.0	24
282	Perspective: 3D bioprinted skin - engineering the skin for medical applications. Annals of 3D Printed Medicine, 2021, 3, 100018.	1.6	0
284	Bioengineering methods for organoid systems. Biology of the Cell, 2021, 113, 475-491.	0.7	8
285	Condensed ECM-based nanofilms on highly permeable PET membranes for robust cell-to-cell communications with improved optical clarity. Biofabrication, 2021, 13, 045020.	3.7	9
286	Towards Cellular Ultrastructural Characterization in Organ-on-a-Chip by Transmission Electron Microscopy. Applied Nano, 2021, 2, 289-302.	0.9	0
287	Recapitulating the Cancer Microenvironment Using Bioprinting Technology for Precision Medicine. Micromachines, 2021, 12, 1122.	1.4	7
288	Aorta smooth muscle-on-a-chip reveals impaired mitochondrial dynamics as a therapeutic target for aortic aneurysm in bicuspid aortic valve disease. ELife, 2021, 10, .	2.8	24
289	Bridging the academia-to-industry gap: organ-on-a-chip platforms for safety and toxicology assessment. Trends in Pharmacological Sciences, 2021, 42, 715-728.	4.0	26
290	Brain-on-a-Chip: Characterizing the next generation of advanced in vitro platforms for modeling the central nervous system. APL Bioengineering, 2021, 5, 030902.	3.3	23
291	Relevance of organ(s)-on-a-chip systems to the investigation of food-gut microbiota-host interactions. Critical Reviews in Microbiology, 2022, 48, 463-488.	2.7	20
292	Human stem cell-based retina on chip as new translational model for validation of AAV retinal gene therapy vectors. Stem Cell Reports, 2021, 16, 2242-2256.	2.3	27
293	Challenging the pipeline. Stem Cell Reports, 2021, 16, 2033-2037.	2.3	8
294	Fabrication approaches for high-throughput and biomimetic disease modeling. Acta Biomaterialia, 2021, 132, 52-82.	4.1	5
295	Towards in silico Models of the Inflammatory Response in Bone Fracture Healing. Frontiers in Bioengineering and Biotechnology, 2021, 9, 703725.	2.0	12
296	Generation of 2.5D lung bud organoids from human induced pluripotent stem cells. Clinical Hemorheology and Microcirculation, 2021, 79, 217-230.	0.9	3
297	Isochoric supercooled preservation and revival of human cardiac microtissues. Communications Biology, 2021, 4, 1118.	2.0	21

#	Article	IF	Citations
298	Organs-on-a-chip models for biological research. Cell, 2021, 184, 4597-4611.	13.5	96
299	State of the art in integrated biosensors for organ-on-a-chip applications. Current Opinion in Biomedical Engineering, 2021, 19, 100309.	1.8	34
300	Engineered in vitro tumor models for cell-based immunotherapy. Acta Biomaterialia, 2021, 132, 345-359.	4.1	13
301	Biomaterial-guided stem cell organoid engineering for modeling development and diseases. Acta Biomaterialia, 2021, 132, 23-36.	4.1	27
302	Advanced human-relevant in vitro pulmonary platforms for respiratory therapeutics. Advanced Drug Delivery Reviews, 2021, 176, 113901.	6.6	27
303	Synergies between Hyperpolarized NMR and Microfluidics: A Review. Progress in Nuclear Magnetic Resonance Spectroscopy, 2022, 128, 44-69.	3.9	18
304	Organ-on-a-chip systems for vascular biology. Journal of Molecular and Cellular Cardiology, 2021, 159, 1-13.	0.9	31
305	Scientific inertia in animal-based research in biomedicine. Studies in History and Philosophy of Science Part A, 2021, 89, 41-51.	0.6	9
306	Nanosafety vs. nanotoxicology: adequate animal models for testing in vivo toxicity of nanoparticles. Toxicology, 2021, 462, 152952.	2.0	19
307	In silico approaches in organ toxicity hazard assessment: Current status and future needs for predicting heart, kidney and lung toxicities. Computational Toxicology, 2021, 20, 100188.	1.8	11
308	Come together: On-chip bioelectric wound closure. Biosensors and Bioelectronics, 2021, 192, 113479.	5.3	20
309	A modular, reversible sealing, and reusable microfluidic device for drug screening. Analytica Chimica Acta, 2021, 1185, 339068.	2.6	6
310	Bioreactors and microphysiological systems for adipose-based pharmacologic screening. , 2022, , 121-146.		1
311	Advances in vascularization and innervation of constructs for neural tissue engineering. Current Opinion in Biotechnology, 2022, 73, 188-197.	3.3	7
312	Reconstitution of the kidney glomerular capillary wall. , 2022, , 331-351.		2
313	Organ-on-a-chip. , 2022, , 181-198.		1
314	Microfluidic modeling of the glomerulus and tubular appartus. , 2022, , 353-366.		0
315	Engineered surfaces: A plausible alternative in overviewing critical barriers for reconstructing modern therapeutics or biomimetic scaffolds. , 2021, , 39-80.		1

#	Article	IF	Citations
316	Go with the flow: modeling unique biological flows in engineeredin vitroplatforms. Lab on A Chip, 2021, 21, 2095-2120.	3.1	16
317	Measuring barrier function in organ-on-chips with cleanroom-free integration of multiplexable electrodes. Lab on A Chip, 2021, 21, 2040-2049.	3.1	25
318	Small universal mechanical module driven by a liquid metal droplet. Lab on A Chip, 2021, 21, 2771-2780.	3.1	11
319	Membrane integration into PDMS-free microfluidic platforms for organ-on-chip and analytical chemistry applications. Lab on A Chip, 2021, 21, 1866-1885.	3.1	39
320	Peristaltic on-chip pump for tunable media circulation and whole blood perfusion in PDMS-free organ-on-chip and Organ-Disc systems. Lab on A Chip, 2021, 21, 3963-3978.	3.1	17
321	On-chip pressure measurements and channel deformation after oil absorption. SN Applied Sciences, 2020, 2, 1.	1.5	6
322	Tissue engineering in urology. , 2020, , 441-455.		1
326	Microfluidics and organ-on-a-chip technologies: A systematic review of the methods used to mimic bone marrow. PLoS ONE, 2020, 15, e0243840.	1.1	18
327	Interpenetrating polymer network hydrogels as bioactive scaffolds for tissue engineering. Reviews in Chemical Engineering, 2022, 38, 347-361.	2.3	28
328	Microfluidic-Based Platform for the Evaluation of Nanomaterial-Mediated Drug Delivery: From High-Throughput Screening to Dynamic Monitoring. Current Pharmaceutical Design, 2019, 25, 2953-2968.	0.9	4
329	Tissue Engineering in Liver Regenerative Medicine: Insights into Novel Translational Technologies. Cells, 2020, 9, 304.	1.8	62
330	Merging organoid and organ-on-a-chip technology to generate complex multi-layer tissue models in a human retina-on-a-chip platform. ELife, 2019, 8, .	2.8	256
331	Multi-Organs-on-Chips for Testing Small-Molecule Drugs: Challenges and Perspectives. Pharmaceutics, 2021, 13, 1657.	2.0	14
332	Microfluidic chips: recent advances, critical strategies in design, applications and future perspectives. Microfluidics and Nanofluidics, 2021, 25, 99.	1.0	73
333	Innervated adrenomedullary microphysiological system to model nicotine and opioid exposure. Organs-on-a-Chip, 2021, 3, 100009.	1.8	1
334	Microtechnology-based in vitro models: Mimicking liver function and pathophysiology. APL Bioengineering, 2021, 5, 041505.	3.3	9
339	Building a better model of the retina. ELife, 2019, 8, .	2.8	3
340	Approaches for Personalized Drug Development in Bladder Cancer Patients. The Korean Journal of Urological Oncology, 2020, 18, 91-98.	0.1	0

#	Article	IF	Citations
341	Advances in Modeling Alzheimer's Disease In Vitro. Advanced NanoBiomed Research, 2021, 1, 2100097.	1.7	10
343	A Synergistic Engineering Approach to Build Human Brain Spheroids. Methods in Molecular Biology, 2021, 2258, 151-169.	0.4	1
344	In vitro disease and organ model. , 2020, , 629-668.		0
345	In vivo electrochemistry. , 2020, , 195-222.		0
347	Microfluidic Organ Chip for In Vitro Model of Blood Glucose Monitoring and Regulation. E3S Web of Conferences, 2020, 218, 04029.	0.2	1
349	Skin-on-a-Chip Technology for Testing Transdermal Drug Deliveryâ€"Starting Points and Recent Developments. Pharmaceutics, 2021, 13, 1852.	2.0	15
354	Integrative approaches to enhance adeno-associated viral gene delivery. Journal of Controlled Release, 2022, 341, 44-50.	4.8	7
355	Precision biomaterials in cancer theranostics and modelling. Biomaterials, 2022, 280, 121299.	5.7	26
356	Simulation and modeling of physiological processes of vital organs in organ-on-a-chip biosystem. Journal of King Saud University - Science, 2022, 34, 101710.	1.6	10
357	Design and Fabrication of Organ-on-Chips: Promises and Challenges. Micromachines, 2021, 12, 1443.	1.4	35
358	High Resolution Dual Material Stereolithography for Monolithic Microdevices. Advanced Materials Technologies, 0, , 2101180.	3.0	2
359	What Is Bioanalytical Chemistry? Scientific Opportunities with Immediate Impact. , 2022, , 1-24.		0
360	Human Organsâ€onâ€Chips: A Review of the Stateâ€ofâ€theâ€Art, Current Prospects, and Future Challenges. Advanced Biology, 2022, 6, e2000526.	1.4	21
361	Imiquimod-gemcitabine nanoparticles harness immune cells to suppress breast cancer. Biomaterials, 2022, 280, 121302.	5.7	23
362	Strategies for developing complex multi-component in vitro tumor models: Highlights in glioblastoma. Advanced Drug Delivery Reviews, 2022, 180, 114067.	6.6	10
363	Tissue engineering of the retina: from organoids to microfluidic chips. Journal of Tissue Engineering, 2021, 12, 204173142110598.	2.3	14
364	Microelectrode Arrays: A Valuable Tool to Analyze Stem Cell-Derived Cardiomyocytes. , 2021, , 1-20.		1
365	Electrokinetic energy conversion through cylindrical microannulus with periodic heterogeneous wall potentials. Journal Physics D: Applied Physics, 2022, 55, 145501.	1.3	2

#	Article	IF	Citations
366	Bio-inspired 3D micro structuring of a liver lobule via direct laser writing: A comparative study with SU-8 and SUEX. Journal of Laser Applications, 2022, 34, .	0.8	7
367	Functional biomaterials. APL Bioengineering, 2022, 6, 010401.	3.3	4
368	3D printing for soft musculoskeletal tissue engineering. , 2022, , 167-200.		0
369	Online Measurement System for Dynamic Flow Bioreactors to Study Barrier Integrity of hiPSC-Based Bloodâ€“Brain Barrier In Vitro Models. Bioengineering, 2022, 9, 39.	1.6	7
370	Polymeric nanoparticles as therapeutic agents against coronavirus disease. Journal of Nanoparticle Research, 2022, 24, 12.	0.8	18
371	Direct Electromembrane Extractionâ€Based Mass Spectrometry: A Tool for Studying Drug Metabolism Properties of Liver Organoids. Analysis & Sensing, 0, , .	1.1	3
372	Engineered in vitro models: mimicking in vivo physiology. , 2022, , 555-609.		0
373	Building Valveless Impedance Pumps From Biological Components: Progress and Challenges. Frontiers in Physiology, 2021, 12, 770906.	1.3	7
374	Modeling viral infection with tissue engineering: COVID-19 and the next outbreaks. , 2022, , 647-667.		1
375	Thin and stretchable extracellular matrix (ECM) membrane reinforced by nanofiber scaffolds for developing in vitro barrier models. Biofabrication, 2022, 14, 025010.	3.7	14
376	Microphysiological Neurovascular Barriers to Model the Inner Retinal Microvasculature. Journal of Personalized Medicine, 2022, 12, 148.	1.1	8
377	Effects of microenvironmental factors on assessing nanoparticle toxicity. Environmental Science: Nano, 2022, 9, 454-476.	2.2	5
378	Characterization of red blood cell deformability induced by acoustic radiation force. Microfluidics and Nanofluidics, 2022, 26, 1.	1.0	3
379	Heart-on-Chip for Combined Cellular Dynamics Measurements and Computational Modeling Towards Clinical Applications. Annals of Biomedical Engineering, 2022, 50, 111-137.	1.3	4
380	Cell-Based Microfluidic Device Utilizing Cell Sheet Technology. Cyborg and Bionic Systems, 2022, 2022, .	3.7	5
381	Micro/nanofluidic devices for drug delivery. Progress in Molecular Biology and Translational Science, 2022, 187, 9-39.	0.9	8
382	Intervertebral Disc-on-a-Chip as Advanced In Vitro Model for Mechanobiology Research and Drug Testing: A Review and Perspective. Frontiers in Bioengineering and Biotechnology, 2021, 9, 826867.	2.0	5
383	Review on Microscale Sensors with 3D Engineered Structures: Fabrication and Applications. Small Methods, 2022, 6, e2101384.	4.6	9

#	Article	IF	Citations
384	Boneâ€onâ€aâ€Chip: A Microscale 3D Biomimetic Model to Study Bone Regeneration. Advanced Engineering Materials, 2022, 24, .	1.6	12
385	Hydrogel-Based Fiber Biofabrication Techniques for Skeletal Muscle Tissue Engineering. ACS Biomaterials Science and Engineering, 2022, 8, 379-405.	2.6	57
387	Implementing organ-on-chip in a next-generation risk assessment of chemicals: a review. Archives of Toxicology, 2022, 96, 711-741.	1.9	21
388	Evaluation of Trans-epithelial Electrical Resistance by Removal and Replenishment of Extracellular Ca²⁺. IEEJ Transactions on Sensors and Micromachines, 2022, 142, 21-28.	0.0	1
389	Organ-on-chip for assessing environmental toxicants. , 2022, , 385-400.		1
390	Why 90% of clinical drug development fails and how to improve it?. Acta Pharmaceutica Sinica B, 2022, 12, 3049-3062.	5.7	348
391	Generation and Culture of Cardiac Microtissues in a Microfluidic Chip with a Reversible Open Top Enables Electrical Pacing, Dynamic Drug Dosing and Endothelial Cell Coâ€Culture. Advanced Materials Technologies, 2022, 7, .	3.0	11
392	Organ-On-A-Chip: A Survey of Technical Results and Problems. Frontiers in Bioengineering and Biotechnology, 2022, 10, 840674.	2.0	49
393	2D Nanosilicate for additive manufacturing: Rheological modifier, sacrificial ink and support bath. Bioprinting, 2022, 25, e00187.	2.9	7
394	Responsive Sensors of Upconversion Nanoparticles. ACS Sensors, 2021, 6, 4272-4282.	4.0	34
395	Research on digital twin model of energy equipment. , 2022, , .		2
396	Lab on a chip devices for fertility: from proof-of-concept to clinical impact. Lab on A Chip, 2022, 22, 1680-1689.	3.1	7
397	Water-Assisted Bonding of Thermoplastic Microfluidic Device for Biological Applications. SSRN Electronic Journal, 0, , .	0.4	1
398	Cell Culture in Microfluidic Droplets. Chemical Reviews, 2022, 122, 7061-7096.	23.0	56
399	Engineering Hydrogels for the Development of Three-Dimensional In Vitro Models. International Journal of Molecular Sciences, 2022, 23, 2662.	1.8	23
400	Structureâ€'tissue exposure/selectivity relationship (STR) correlates with clinical efficacy/safety. Acta Pharmaceutica Sinica B, 2022, 12, 2462-2478.	5.7	6
401	Human organs-on-chips for disease modelling, drug development and personalized medicine. Nature Reviews Genetics, 2022, 23, 467-491.	7.7	361
402	3D Printing: Applications in Tissue Engineering, Medical Devices, and Drug Delivery. AAPS PharmSciTech, 2022, 23, 92.	1.5	49

#	Article	IF	Citations
403	Advances in microfabrication technologies in tissue engineering and regenerative medicine. Artificial Organs, 2022, 46, .	1.0	16
404	Design, mutate, screen: Multiplexed creation and arrayed screening of synchronized genetic clocks. Cell Systems, 2022, 13, 365-375.e5.	2.9	8
405	Microfluidic Organ-on-a-Chip Devices for Liver Disease Modeling In Vitro. Micromachines, 2022, 13, 428.	1.4	27
406	3D Tissue-Engineered Vascular Drug Screening Platforms: Promise and Considerations. Frontiers in Cardiovascular Medicine, 2022, 9, 847554.	1.1	20
407	Human Multi-Compartment Airways-on-Chip Platform for Emulating Respiratory Airborne Transmission: From Nose to Pulmonary Acini. Frontiers in Physiology, 2022, 13, 853317.	1.3	15
408	Electroconductive and Anisotropic Structural Color Hydrogels for Visual Heartâ€onâ€aâ€Chip Construction. Advanced Science, 2022, 9, e2105777.	5.6	31
409	Development of digital organ-on-a-chip to assess hepatotoxicity and extracellular vesicle-based anti-liver cancer immunotherapy. Bio-Design and Manufacturing, 2022, 5, 437-450.	3.9	16
410	Multicellular modules as clinical diagnostic and therapeutic targets. Trends in Cancer, 2022, 8, 164-173.	3.8	10
412	Classical Complement Pathway Inhibition in a â€œHumanâ€Onâ€Aâ€Chipâ€•Model of Autoimmune Demyelinating Neuropathies. Advanced Therapeutics, 2022, 5, .	1.6	17
413	A highâ€throughput biomimetic boneâ€onâ€aâ€chip platform with artificial intelligenceâ€assisted image analysis for osteoporosis drug testing. Bioengineering and Translational Medicine, 2023, 8, .	3.9	17
414	Artificial intelligence to bring nanomedicine to life. Advanced Drug Delivery Reviews, 2022, 184, 114194.	6.6	39
415	Dual-cell culture system with identical culture environment for comparison of anti-cancer drug toxicity. Chemical Engineering Science, 2022, 253, 117555.	1.9	2
416	Recent Advances in Microfluidic-Based Microphysiological Systems. Biochip Journal, 2022, 16, 13-26.	2.5	20
417	Progress in Vocal Fold Regenerative Biomaterials: An Immunological Perspective. Advanced NanoBiomed Research, 2022, 2, .	1.7	7
418	Organ-on-a-Chip for Studying Gut-Brain Interaction Mediated by Extracellular Vesicles in the Gut Microenvironment. International Journal of Molecular Sciences, 2021, 22, 13513.	1.8	15
419	Graphene nanostructures for inputâ€“output bioelectronics. Biophysics Reviews, 2021, 2, 041304.	1.0	7
420	Microfluidic Characterization of Red Blood Cells Microcirculation under Oxidative Stress. Cells, 2021, 10, 3552.	1.8	6
421	Micro/Nanofluidicâ€Enabled Biomedical Devices: Integration of Structural Design and Manufacturing. Advanced NanoBiomed Research, 2022, 2, .	1.7	5

#	Article	IF	Citations
423	A Facile and Scalable Hydrogel Patterning Method for Microfluidic 3D Cell Culture and Spheroid-in-Gel Culture Array. Biosensors, 2021, 11, 509.	2.3	16
424	Simultaneous and multiplex detection of exosomal microRNAs based on the asymmetric Au@Au@Ag probes with enhanced Raman signal. Chinese Chemical Letters, 2022, 33, 3183-3187.	4.8	11
425	Microfluidic tools to study cell migration. , 2022, , 273-293.		0
426	Cell migration. , 2022, , 67-82.		0
427	Radiotherapy on-chip: Microfluidics for Translational Radiation Oncology. Lab on A Chip, 2022, , .	3.1	5
428	Toward a modular, integrated, miniaturized, and portable microfluidic flow control architecture for organs-on-chips applications. Biomicrofluidics, 2022, 16, 021302.	1.2	6
429	High-throughput precise particle transport at single-particle resolution in a three-dimensional magnetic field for highly sensitive bio-detection. Scientific Reports, 2022, 12, 6380.	1.6	9
430	Developing organs-on-chips for biomedicine. Science Bulletin, 2022, 67, 1108-1111.	4.3	3
431	The tendon microenvironment: Engineered in vitro models to study cellular crosstalk. Advanced Drug Delivery Reviews, 2022, 185, 114299.	6.6	19
432	Targeting strategies for mRNA delivery. Materials Today Advances, 2022, 14, 100240.	2.5	15
439	Digital Twin Solutions for Textile Industry: Architecture, Services, and Challenges. Studies in Systems, Decision and Control, 2022, , 171-186.	0.8	2
440	3D bioprinted organâ€onâ€chips. Aggregate, 2023, 4, .	5.2	35
441	Perfusion in Organ-on-Chip Models and Its Applicability to the Replication of Spermatogenesis In Vitro. International Journal of Molecular Sciences, 2022, 23, 5402.	1.8	3
442	Engineering multiscale structural orders for high-fidelity embryoids and organoids. Cell Stem Cell, 2022, 29, 722-743.	5.2	19
444	Supercritical carbon dioxide and biomedicine: Opening the doors towards biocompatibility. Chemical Engineering Journal, 2022, 444, 136615.	6.6	10
446	Three-Dimensional-Bioprinted Liver Chips and Challenges. Applied Sciences (Switzerland), 2022, 12, 5029.	1.3	13
447	Emerging tissue engineering strategies for the corneal regeneration. Journal of Tissue Engineering and Regenerative Medicine, 2022, 16, 683-706.	1.3	6
448	Blood-brain barrier-on-a-chip for brain disease modeling and drug testing. BMB Reports, 2022, 55, 213-219.	1.1	12

#	Article	IF	Citations
449	The impact of microfluidics in high-throughput drug-screening applications. Biomicrofluidics, 2022, 16, .	1.2	16
450	MatriGridÂ® Based Biological Morphologies: Tools for 3D Cell Culturing. Bioengineering, 2022, 9, 220.	1.6	4
451	Basement membrane properties and their recapitulation in organ-on-chip applications. Materials Today Bio, 2022, 15, 100301.	2.6	11
452	A reconfigurable microfluidic building block platform for high-throughput nonhormonal contraceptive screening. Lab on A Chip, 2022, 22, 2531-2539.	3.1	2
454	Liver Acinus Dynamic Chip for Assessment of Drug-Induced Zonal Hepatotoxicity. Biosensors, 2022, 12, 445.	2.3	6
455	Construction and Application of in vitro Alveolar Models Based on 3D Printing Technology. , 2022, 1, 100025.		1
456	A Critical Review on the Sensing, Control, and Manipulation of Single Molecules on Optofluidic Devices. Micromachines, 2022, 13, 968.	1.4	3
457	Recent Advances in Microscale Electroporation. Chemical Reviews, 2022, 122, 11247-11286.	23.0	22
458	In Vitro Brain Organoids and Computational Models to Study Cell Death in Brain Diseases. Methods in Molecular Biology, 2022, , 281-296.	0.4	2
461	Developerâ€™s Guide to an Organ-on-Chip Model. ACS Biomaterials Science and Engineering, 2022, 8, 4643-4647.	2.6	12
463	Organ-on-a-chip microengineering for bio-mimicking disease models and revolutionizing drug discovery. Biosensors and Bioelectronics: X, 2022, 11, 100194.	0.9	7
464	Biomimetic Vasculatures by 3Dâ€Printed Porous Molds. Small, 2022, 18, .	5.2	8
465	3D-printed, configurable, paper-based, and autonomous multi-organ-on-paper platforms. Molecular Systems Design and Engineering, 2022, 7, 1538-1548.	1.7	3
466	A trio of biological rhythms and their relevance in rhythmic mechanical stimulation of cell cultures. Frontiers in Psychology, 0, 13, .	1.1	1
467	Engineered Microphysiological Systems for Testing Effectiveness of Cell-Based Cancer Immunotherapies. Cancers, 2022, 14, 3561.	1.7	11
468	Deposition chamber technology as building blocks for a standardized brain-on-chip framework. Microsystems and Nanoengineering, 2022, 8, .	3.4	4
469	Organâ€Onâ€Aâ€Chip Models of the Bloodâ€“Brain Barrier: Recent Advances and Future Prospects. Small, 2022, 18, .	5.2	14
470	Ultrafast Laser-Ablated Bioinspired Hydrogel-Based Porous Gating System for Sustained Drug Release. ACS Applied Materials & Interfaces, 2022, 14, 35366-35375.	4.0	5

#	Article	IF	Citations
471	The Modular ÂµSiM: A Mass Produced, Rapidly Assembled, and Reconfigurable Platform for the Study of Barrier Tissue Models In Vitro. Advanced Healthcare Materials, 2022, 11, .	3.9	9
472	Ultrathin and handleable nanofibrous net as a novel biomimetic basement membrane material for endothelial barrier formation. Colloids and Surfaces B: Biointerfaces, 2022, 219, 112775.	2.5	3
473	In vitro high-content tissue models to address precision medicine challenges. Molecular Aspects of Medicine, 2022, , 101108.	2.7	1
474	Microfluidic 3D Platform to Evaluate Endothelial Progenitor Cell Recruitment by Bioactive Materials. Acta Biomaterialia, 2022, , .	4.1	6
475	Fungi-on-a-Chip: microfluidic platforms for single-cell studies on fungi. FEMS Microbiology Reviews, 2022, 46, .	3.9	7
476	Remote Magnetic Microengineering and Alignment of Spheroids into 3D Cellular Fibers. Advanced Functional Materials, 2022, 32, .	7.8	5
477	Controlled magnesium ion delivery system for in situ bone tissue engineering. Journal of Controlled Release, 2022, 350, 360-376.	4.8	27
478	In vitro study of emodin-induced nephrotoxicity in human renal glomerular endothelial cells on a microfluidic chip. Biocell, 2023, 47, 125-131.	0.4	0
480	Microfluidic Techniques for Nextâ€Generation Organoid Systems. Advanced Materials Interfaces, 2022, 9, .	1.9	1
481	Modeling human HSV infection via a vascularized immune-competent skin-on-chip platform. Nature Communications, 2022, 13, .	5.8	17
483	Gravity-driven preprogrammed microfluidic recirculation system for parallel biosensing of cell behaviors. Analytica Chimica Acta, 2022, 1233, 340456.	2.6	3
485	Fabrication of Concave Microwells and Their Applications in Micro-Tissue Engineering: A Review. Micromachines, 2022, 13, 1555.	1.4	6
486	Active cell capturing for organ-on-a-chip systems: a review. Biomedizinische Technik, 2022, 67, 443-459.	0.9	3
491	Heart-on-a-chip using human iPSC-derived cardiomyocytes with an integrated vascular endothelial layer based on a culture patch as a potential platform for drug evaluation. Biofabrication, 2023, 15, 015010.	3.7	12
492	Patterning Wettability for Open-Surface Fluidic Manipulation: Fundamentals and Applications. Chemical Reviews, 2022, 122, 16752-16801.	23.0	28
493	Pulmonary hazard identifications of Graphene family nanomaterials: Adverse outcome pathways framework based on toxicity mechanisms. Science of the Total Environment, 2023, 857, 159329.	3.9	3
494	State-of-the-art advancements in Liver-on-a-chip (LOC): Integrated biosensors for LOC. Biosensors and Bioelectronics, 2022, 218, 114758.	5.3	9
495	Engineering porous membranes mimicking in vivo basement membrane for organ-on-chips applications. Biomicrofluidics, 2022, 16, .	1.2	3

#	Article	IF	Citations
496	4D live imaging and computational modeling of a functional gut-on-a-chip evaluate how peristalsis facilitates enteric pathogen invasion. Science Advances, 2022, 8, .	4.7	12
498	Advancements in MAFLD Modeling with Human Cell and Organoid Models. International Journal of Molecular Sciences, 2022, 23, 11850.	1.8	4
499	Organsâ€onâ€Chips: Trends and Challenges in Advanced Systems Integration. Advanced Materials Interfaces, 2022, 9, .	1.9	8
500	Integrated experimental-computational analysis of a HepaRG liver-islet microphysiological system for human-centric diabetes research. PLoS Computational Biology, 2022, 18, e1010587.	1.5	6
501	Intersection of stem cell biology and engineering towards next generation in vitro models of human fibrosis. Frontiers in Bioengineering and Biotechnology, 0, 10, .	2.0	3
502	Fabrication of high aspect ratio microfluidic devices for long term in vitro culture of 3D tumor models. Microelectronic Engineering, 2023, 267-268, 111898.	1.1	4
503	Bone-on-a-chip platforms and integrated biosensors: Towards advanced in vitro bone models with real-time biosensing. Biosensors and Bioelectronics, 2023, 219, 114798.	5.3	7
504	A dental implant-on-a-chip for 3D modeling of hostâ€“materialâ€“pathogen interactions and therapeutic testing platforms. Lab on A Chip, 0, , .	3.1	0
505	Creating Vascularized Structure by Microfluidic Chip Technology. , 2022, , .		0
506	Engineered Biomimetic Membranes for Organ-on-a-Chip. ACS Biomaterials Science and Engineering, 2022, 8, 5038-5059.	2.6	15
507	Microfluidic trends in drug screening and drug delivery. TrAC - Trends in Analytical Chemistry, 2023, 158, 116821.	5.8	11
508	Organs-on-Chips Platforms Are Everywhere: A Zoom on Biomedical Investigation. Bioengineering, 2022, 9, 646.	1.6	8
509	3D conductive material strategies for modulating and monitoring cells. Progress in Materials Science, 2023, 133, 101041.	16.0	3
510	Increasing flow rates in polydimethylsiloxane-based deterministic lateral displacement devices for sub-micrometer particle separation. Microfluidics and Nanofluidics, 2023, 27, .	1.0	4
511	Real-time measurement of the trans-epithelial electrical resistance in an organ-on-a-chip during cell proliferation. Analyst, The, 2023, 148, 516-524.	1.7	2
512	Pump-less, recirculating organ-on-a-chip (rOoC) platform. Lab on A Chip, 2023, 23, 591-608.	3.1	8
513	Particles and microbiota: interaction to death or resilience?. , 2023, , 1-48.		0
514	Technical and engineering considerations for designing therapeutics and delivery systems. Journal of Controlled Release, 2023, 353, 411-422.	4.8	0

#	Article	IF	Citations
515	Microfluidics for diagnosis and treatment of cardiovascular disease. Journal of Materials Chemistry B, 2023, 11, 546-559.	2.9	9
516	Future regenerative medicine developments and their therapeutic applications. Biomedicine and Pharmacotherapy, 2023, 158, 114131.	2.5	10
517	Current state of knowledge on intelligent-response biological and other macromolecular hydrogels in biomedical engineering: A review. International Journal of Biological Macromolecules, 2023, 227, 472-492.	3.6	24
518	Organotypic cultures as aging associated disease models. Aging, 2022, 14, 9338-9383.	1.4	3
519	Oxygen Gradient Induced in Microfluidic Chips Can Be Used as a Model for Liver Zonation. Cells, 2022, 11, 3734.	1.8	1
520	Recent Advances of Organ-on-a-Chip in Cancer Modeling Research. Biosensors, 2022, 12, 1045.	2.3	14
521	Thyroidâ€onâ€aâ€Chip: An Organoid Platform for In Vitro Assessment of Endocrine Disruption. Advanced Healthcare Materials, 2023, 12, .	3.9	3
522	Organ-on-a-chip: Its use in cardiovascular research. Clinical Hemorheology and Microcirculation, 2023, 83, 315-339.	0.9	2
523	Bridging the In Vitro to In Vivo gap: Using the Chick Embryo Model to Accelerate Nanoparticle Validation and Qualification for In Vivo studies. ACS Nano, 2022, 16, 19626-19650.	7.3	5
524	Highâ€throughput formation of miniaturized cocultures of 2D cell monolayers and 3D cell spheroids using droplet microarray. , 2023, 2, .		4
525	Normalization of organ-on-a-Chip samples for mass spectrometry based proteomics and metabolomics via Dansylation-based assay. Toxicology in Vitro, 2023, 88, 105540.	1.1	1
526	Integrating mechanical sensor readouts into organ-on-a-chip platforms. Frontiers in Bioengineering and Biotechnology, 0, 10, .	2.0	7
527	Capturing and Quantifying Particle Transcytosis with Microphysiological Intestineâ€onâ€Chip Models. Small Methods, 2023, 7, .	4.6	3
528	Osteochondral regenerative engineering: challenges, state-of-the-art and translational perspectives. International Journal of Energy Production and Management, 2023, 10, .	1.9	2
530	Single Plane Illumination Microscopy for Microfluidic Device Imaging. Biosensors, 2022, 12, 1110.	2.3	2
531	Bioengineering Boneâ€onâ€aâ€Chip Model Harnessing Osteoblastic and Osteoclastic Resolution. Advanced Engineering Materials, 2023, 25, .	1.6	2
532	Gut-on-a-chip for exploring the transport mechanism of Hg(II). Microsystems and Nanoengineering, 2023, 9, .	3.4	11
533	3D printing of hollow geometries using blocking liquid substitution stereolithography. Scientific Reports, 2023, 13, .	1.6	2

#	Article	IF	Citations
534	Design and engineering of organ-on-a-chip. Biomedical Engineering Letters, 2023, 13, 97-109.	2.1	11
535	Vascularized Tissue Organoids. Bioengineering, 2023, 10, 124.	1.6	9
536	Inheritance of paternal lifestyles and exposures through sperm DNA methylation. Nature Reviews Urology, 2023, 20, 356-370.	1.9	7
538	Organoid factory: The recent role of the human induced pluripotent stem cells (hiPSCs) in precision medicine. Frontiers in Cell and Developmental Biology, 0, 10, .	1.8	8
539	Analyzing angiogenesis on a chip using deep learning-based image processing. Lab on A Chip, 2023, 23, 475-484.	3.1	10
540	(Bio)fabrication of microfluidic devices and organs-on-a-chip. , 2023, , 273-336.		2
542	Lung-on-a-chip. , 2023, , 251-275.		0
543	Moving perfusion culture and live-cell imaging from lab to disc: Proof of concept toxicity assay with AI-based image analysis. Lab on A Chip, 0, , .	3.1	2
544	Kidney-on-a-chip. , 2023, , 277-314.		0
545	Microfluidics: A versatile tool for developing, optimizing, and delivering nanomedicines. , 2023, , 137-160.		0
546	Positive, negative and controlled durotaxis. Soft Matter, 2023, 19, 2993-3001.	1.2	4
547	Recent advances in biofabrication strategies based on bioprinting for vascularized tissue repair and regeneration. Materials and Design, 2023, 229, 111885.	3.3	4
548	Assessing engineered tissues and biomaterials using ultrasound imaging: In vitro and in vivo applications. Biomaterials, 2023, 296, 122054.	5.7	4
549	Organs-on-chips technologies â€“ A guide from disease models to opportunities for drug development. Biosensors and Bioelectronics, 2023, 231, 115271.	5.3	15
550	Gut-liver-axis microphysiological system for studying cellular fluidic shear stress and inter-tissue interaction. Biomicrofluidics, 2022, 16, .	1.2	4
551	Application of microfluidic chips in the simulation of the urinary system microenvironment. Materials Today Bio, 2023, 19, 100553.	2.6	3
552	Thrombosis Models: An Overview of Common In Vivo and In Vitro Models of Thrombosis. International Journal of Molecular Sciences, 2023, 24, 2569.	1.8	3
553	Biomarkers for biosensors to monitor space-induced cardiovascular ageing. Frontiers in Sensors, 0, 4, .	1.7	1

#	Article	IF	Citations
554	An integrated perspective for the diagnosis and therapy of neurodevelopmental disorders â€“ From an engineering point of view. Advanced Drug Delivery Reviews, 2023, 194, 114723.	6.6	2
555	Organ-on-a-chip for dynamic tumor drug resistance investigation. Chemical Engineering Journal, 2023, 460, 141739.	6.6	7
556	Building Blood Vessel Chips with Enhanced Physiological Relevance. Advanced Materials Technologies, 2023, 8, .	3.0	2
557	Enabling technology and core theory of synthetic biology. Science China Life Sciences, 2023, 66, 1742-1785.	2.3	10
558	3D In Vitro Bloodâ€Brainâ€Barrier Model for Investigating Barrier Insults. Advanced Science, 2023, 10, .	5.6	7
559	Emerging trends in organ-on-a-chip systems for drug screening. Acta Pharmaceutica Sinica B, 2023, 13, 2483-2509.	5.7	6
560	Decellularized lotus petioles integrated microfluidic chips for neural cell alignment monitoring. Composites Part B: Engineering, 2023, 255, 110621.	5.9	4
561	The Gutâ€“Organ-Axis Concept: Advances the Application of Gut-on-Chip Technology. International Journal of Molecular Sciences, 2023, 24, 4089.	1.8	19
562	Early-Stage Liquid Infiltration in Nanoconfinements. Langmuir, 2023, 39, 3301-3311.	1.6	0
563	Organoids and organs-on-chips: insights into predicting the efficacy of systemic treatment in colorectal cancer. Cell Death Discovery, 2023, 9, .	2.0	12
564	Nonmammalian models in toxicology screening. , 2024, , 971-985.		0
565	On-chip construction of a fully structured scaffold-free vascularized renal tubule. Biomedical Microdevices, 2023, 25, .	1.4	0
566	Microfabricated polymer-metal biosensors for multifarious data collection from electrogenic cellular models. Microsystems and Nanoengineering, 2023, 9, .	3.4	5
567	Recent developments in organ-on-a-chip technology for cardiovascular disease research. Analytical and Bioanalytical Chemistry, 2023, 415, 3911-3925.	1.9	4
568	Recapitulating essential pathophysiological characteristics in lung-on-a-chip for disease studies. Frontiers in Immunology, 0, 14, .	2.2	8
569	Modular microfluidics for life sciences. Journal of Nanobiotechnology, 2023, 21, .	4.2	16
570	3D printable acrylate polydimethylsiloxane resins for cell culture and drug testing. Biomaterials Science, 2023, 11, 2950-2959.	2.6	2
572	PEDOT:PSS hydrogels with high conductivity and biocompatibility for in situ cell sensing. Journal of Materials Chemistry B, 2023, 11, 3226-3235.	2.9	6

#	Article	IF	Citations
573	Application of the organ-on-a-chip technology in experimental ophthalmology. Vestnik Oftalmologii, 2023, 139, 114.	0.1	2
574	Single-shot refractive index slice imaging using spectrally multiplexed optical transfer function reshaping. Optics Express, 2023, 31, 13806.	1.7	1
575	Thinking in 3 dimensions: philosophies of the microenvironment in organoids and organs-on-chip. History and Philosophy of the Life Sciences, 2023, 45, .	0.6	0
576	Writing 3D In Vitro Models of Human Tendon within a Biomimetic Fibrillar Support Platform. ACS Applied Materials & Interfaces, 2023, 15, 50598-50611.	4.0	2
577	BBB-on-a-chip with integrated micro-TEER for permeability evaluation of multi-functionalized gold nanorods against Alzheimerâ€™s disease. Journal of Nanobiotechnology, 2023, 21, .	4.2	23
578	Perspective on human papillomavirus infection treatment by vaginal microbiota. , 2023, 1, .		2
579	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
580	Getting closer to modeling the gut-brain axis using induced pluripotent stem cells. Frontiers in Cell and Developmental Biology, 0, 11, .	1.8	4
581	The impact of pericytes on the stability of microvascular networks in response to nanoparticles. Scientific Reports, 2023, 13, .	1.6	9
582	Engineers in Medicine: Foster Innovation by Traversing Boundaries. Critical Reviews in Biomedical Engineering, 2023, , .	0.5	0
583	Preclinical models for drug discovery for metastatic disease. Cell, 2023, 186, 1792-1813.	13.5	13
584	Endodontic Tissue Regeneration: A Review for Tissue Engineers and Dentists. Tissue Engineering - Part B: Reviews, 2023, 29, 491-513.	2.5	1
585	Political and ethical landscape of brain organoid research. , 0, 2, 3.		1
586	Sensors-integrated organ-on-a-chip for biomedical applications. Nano Research, 2023, 16, 10072-10099.	5.8	4
593	Lung-on-a-Chip Models of the Lung Parenchyma. Advances in Experimental Medicine and Biology, 2023, , 191-211.	0.8	0
597	â€œPandemics-on-a-Chipâ€• Organ-on-a-Chip Models for Studying Viral Infections. , 2023, , 133-157.		0
600	The feasible application of microfluidic tissue/organ-on-a-chip as an impersonator of oral tissues and organs: a direction for future research. Bio-Design and Manufacturing, 2023, 6, 478-506.	3.9	3
615	Organ Chips and Visualization of Biological Systems. Advances in Experimental Medicine and Biology, 2023, , 155-183.	0.8	1

#	Article	IF	Citations
617	Magnetically actuated systems for microfluidic applications. , 2023, , 103-128.		0
624	Advanced Manufacturing of Peptide Nanomaterials. , 2023, , 335-366.		0
628	Beyond traditional light: NIR-II light-activated photosensitizers for cancer therapy. Journal of Materials Chemistry B, 2023, 11, 8315-8326.	2.9	0
637	Mikroelektroden-Arrays: Ein wertvolles Instrument zur Analyse von aus Stammzellen gewonnenen Kardiomyozyten. , 2023, , 1-24.		0
645	Microfluidics-integrated biosensor platform for modern clinical analysis. , 2024, , 153-179.		0
655	Tumor Ecosystem-Mimicking Bioengineering Methods. , 2023, , 637-653.		0
657	Targeting Epigenetics in Pulmonary Arterial Hypertension. , 2023, , 223-255.		0
662	AI-enhanced biomedical micro/nanorobots in microfluidics. Lab on A Chip, 2024, 24, 1419-1440.	3.1	0
667	Organ-on-chip-based disease models. , 2024, , 283-308.		0
672	Heart-on-a-chip systems: disease modeling and drug screening applications. Lab on A Chip, 2024, 24, 1494-1528.	3.1	0
673	Chiral nanomaterials in tissue engineering. Nanoscale, 2024, 16, 5014-5041.	2.8	0
677	From animal testing to in vitro systems: advancing standardization in microphysiological systems. Lab on A Chip, 2024, 24, 1076-1087.	3.1	1
680	Hospital Automation Robotics. , 2023, , 101-114.		0
681	Advanced Technologies in Clinical Research and Drug Development. Advances in Computational Intelligence and Robotics Book Series, 2024, , 1-17.	0.4	0