Ali Tamayol

List of Publications by Year
in descending order

126 papers	13,139 citations	31976 53 h-index	23533 111 g-index
134 all docs	134 docs citations	134 times ranked	16292 citing authors

#	Article	IF	Citations
1	Synthesis, properties, and biomedical applications of gelatin methacryloyl (GelMA) hydrogels. Biomaterials, 2015, 73, 254-271.	11.4	1,871
2	25th Anniversary Article: Rational Design and Applications of Hydrogels in Regenerative Medicine. Advanced Materials, 2014, 26, 85-124.	21.0	1,103
3	Graphene-based materials for tissue engineering. Advanced Drug Delivery Reviews, 2016, 105, 255-274.	13.7	537
4	Drug delivery systems and materials for wound healing applications. Advanced Drug Delivery Reviews, 2018, 127, 138-166.	13.7	512
5	A liver-on-a-chip platform with bioprinted hepatic spheroids. Biofabrication, 2016, 8, 014101.	7.1	466
6	Fiber-based tissue engineering: Progress, challenges, and opportunities. Biotechnology Advances, 2013, 31, 669-687.	11.7	386
7	Bioprinted Osteogenic and Vasculogenic Patterns for Engineering 3D Bone Tissue. Advanced Healthcare Materials, 2017, 6, 1700015.	7.6	310
8	Gold Nanocomposite Bioink for Printing 3D Cardiac Constructs. Advanced Functional Materials, 2017, 27, 1605352.	14.9	278
9	Magnetic Nanoparticles in Cancer Therapy and Diagnosis. Advanced Healthcare Materials, 2020, 9, e1901058.	7.6	261
10	Smart Bandage for Monitoring and Treatment of Chronic Wounds. Small, 2018, 14, e1703509.	10.0	257
11	Highly Elastic and Conductive Humanâ€Based Protein Hybrid Hydrogels. Advanced Materials, 2016, 28, 40-49.	21.0	226
12	In vitro and in vivo analysis of visible light crosslinkable gelatin methacryloyl (GelMA) hydrogels. Biomaterials Science, 2017, 5, 2093-2105.	5.4	218
13	Glucoseâ€Sensitive Hydrogel Optical Fibers Functionalized with Phenylboronic Acid. Advanced Materials, 2017, 29, 1606380.	21.0	206
14	A Bioactive Carbon Nanotubeâ€Based Ink for Printing 2D and 3D Flexible Electronics. Advanced Materials, 2016, 28, 3280-3289.	21.0	199
15	Smart Bandages: The Future of Wound Care. Trends in Biotechnology, 2018, 36, 1259-1274.	9.3	193
16	3D Bioprinting in Skeletal Muscle Tissue Engineering. Small, 2019, 15, e1805530.	10.0	192
17	A highly adhesive and naturally derived sealant. Biomaterials, 2017, 140, 115-127.	11.4	188
18	A Textile Dressing for Temporal and Dosage Controlled Drug Delivery. Advanced Functional Materials, 2017, 27, 1702399.	14.9	187

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19	Microfluidics for advanced drug delivery systems. Current Opinion in Chemical Engineering, 2015, 7, 101-112.	7.8	182
20	Elastic sealants for surgical applications. European Journal of Pharmaceutics and Biopharmaceutics, 2015, 95, 27-39.	4.3	182
21	Flexible pHâ€Sensing Hydrogel Fibers for Epidermal Applications. Advanced Healthcare Materials, 2016, 5, 711-719.	7.6	172
22	Textile Technologies and Tissue Engineering: A Path Toward Organ Weaving. Advanced Healthcare Materials, 2016, 5, 751-766.	7.6	161
23	Surgical materials: Current challenges and nano-enabled solutions. Nano Today, 2014, 9, 574-589.	11.9	158
24	Additive manufacturing of magnesium alloys. Bioactive Materials, 2020, 5, 44-54.	15.6	158
25	A Multifunctional Polymeric Periodontal Membrane with Osteogenic and Antibacterial Characteristics. Advanced Functional Materials, 2018, 28, 1703437.	14.9	152
26	Spatially and temporally controlled hydrogels for tissue engineering. Materials Science and Engineering Reports, 2017, 119, 1-35.	31.8	151
27	Highly Stretchable Potentiometric pH Sensor Fabricated via Laser Carbonization and Machining of Carbonâ˘Polyaniline Composite. ACS Applied Materials & Interfaces, 2017, 9, 9015-9023.	8.0	146
28	A low-cost flexible pH sensor array for wound assessment. Sensors and Actuators B: Chemical, 2016, 229, 609-617.	7.8	138
29	Composite Living Fibers for Creating Tissue Constructs Using Textile Techniques. Advanced Functional Materials, 2014, 24, 4060-4067.	14.9	131
30	Hydrogel Templates for Rapid Manufacturing of Bioactive Fibers and 3D Constructs. Advanced Healthcare Materials, 2015, 4, 2146-2153.	7.6	127
31	Stimuli-responsive hydrogels for manipulation of cell microenvironment: From chemistry to biofabrication technology. Progress in Polymer Science, 2019, 98, 101147.	24.7	120
32	Biodegradable Nanofibrous Polymeric Substrates for Generating Elastic and Flexible Electronics. Advanced Materials, 2014, 26, 5823-5830.	21.0	117
33	Patientâ€Specific Bioinks for 3D Bioprinting of Tissue Engineering Scaffolds. Advanced Healthcare Materials, 2018, 7, e1701347.	7.6	115
34	Paper-based microfluidic system for tear electrolyte analysis. Lab on A Chip, 2017, 17, 1137-1148.	6.0	111
35	Dermal Patch with Integrated Flexible Heater for on Demand Drug Delivery. Advanced Healthcare Materials, 2016, 5, 175-184.	7.6	109
36	A Wirelessly Controlled Smart Bandage with 3Dâ€Printed Miniaturized Needle Arrays. Advanced Functional Materials, 2020, 30, 1905544.	14.9	109

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37	Rapid prototyping of whole-thermoplastic microfluidics with built-in microvalves using laser ablation and thermal fusion bonding. Sensors and Actuators B: Chemical, 2018, 255, 100-109.	7.8	104
38	Softâ€Nanoparticle Functionalization of Natural Hydrogels for Tissue Engineering Applications. Advanced Healthcare Materials, 2019, 8, e1900506.	7.6	95
39	Biofabrication of natural hydrogels for cardiac, neural, and bone Tissue engineering Applications. Bioactive Materials, 2021, 6, 3904-3923.	15.6	94
40	Biodegradable elastic nanofibrous platforms with integrated flexible heaters for on-demand drug delivery. Scientific Reports, 2017, 7, 9220.	3.3	90
41	Extrusion bioprinting: Recent progress, challenges, and future opportunities. Bioprinting, 2021, 21, e00116.	5.8	87
42	<i>In Situ</i> Printing of Adhesive Hydrogel Scaffolds for the Treatment of Skeletal Muscle Injuries. ACS Applied Bio Materials, 2020, 3, 1568-1579.	4.6	86
43	Single Cell Microgel Based Modular Bioinks for Uncoupled Cellular Microâ€•and Macroenvironments. Advanced Healthcare Materials, 2017, 6, 1600913.	7.6	84
44	Fluid flow and forced convection heat transfer around a solid cylinder wrapped with a porous ring. International Journal of Heat and Mass Transfer, 2013, 63, 91-100.	4.8	75
45	Nanostructured Fibrous Membranes with Rose Spike-Like Architecture. Nano Letters, 2017, 17, 6235-6240.	9.1	72
46	Microneedle arrays for the treatment of chronic wounds. Expert Opinion on Drug Delivery, 2020, 17, 1767-1780.	5.0	70
47	Micro and nanotechnologies for bone regeneration: Recent advances and emerging designs. Journal of Controlled Release, 2018, 274, 35-55.	9.9	68
48	Mechanical and Biochemical Stimulation of 3D Multilayered Scaffolds for Tendon Tissue Engineering. ACS Biomaterials Science and Engineering, 2019, 5, 2953-2964.	5.2	66
49	In vivo printing of growth factor-eluting adhesive scaffolds improves wound healing. Bioactive Materials, 2022, 8, 296-308.	15.6	66
50	Microfluidic direct writer with integrated declogging mechanism for fabricating cell-laden hydrogel constructs. Biomedical Microdevices, 2014, 16, 387-395.	2.8	61
51	Microengineered 3D cellâ€laden thermoresponsive hydrogels for mimicking cell morphology and orientation in cartilage tissue engineering. Biotechnology and Bioengineering, 2017, 114, 217-231.	3.3	61
52	Engineering Photocrosslinkable Bicomponent Hydrogel Constructs for Creating 3D Vascularized Bone. Advanced Healthcare Materials, 2017, 6, 1601122.	7.6	59
53	Human Periodontal Ligamentâ€•and Gingivaâ€derived Mesenchymal Stem Cells Promote Nerve Regeneration When Encapsulated in Alginate/Hyaluronic Acid 3D Scaffold. Advanced Healthcare Materials, 2017, 6, 1700670.	7.6	59
54	In Vivo Printing of Nanoenabled Scaffolds for the Treatment of Skeletal Muscle Injuries. Advanced Healthcare Materials, 2021, 10, e2002152.	7.6	59

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55	Visible light crosslinkable human hair keratin hydrogels. Bioengineering and Translational Medicine, 2018, 3, 37-48.	7.1	57
56	Bioinks and Bioprinting Strategies for Skeletal Muscle Tissue Engineering. Advanced Materials, 2022, 34, e2105883.	21.0	53
57	Processâ€"Structureâ€"Quality Relationships of Three-Dimensional Printed Poly(Caprolactone)-Hydroxyapatite Scaffolds. Tissue Engineering - Part A, 2020, 26, 279-291.	3.1	50
58	Nanobead-on-string composites for tendon tissue engineering. Journal of Materials Chemistry B, 2018, 6, 3116-3127.	5.8	49
59	Growth-Inhibitory Effect of Chitosan-Coated Liposomes Encapsulating Curcumin on MCF-7 Breast Cancer Cells. Marine Drugs, 2020, 18, 217.	4.6	48
60	Numerical analysis for curved vortex tube optimization. International Communications in Heat and Mass Transfer, 2014, 50, 98-107.	5.6	46
61	Oxygen-Releasing Antibacterial Nanofibrous Scaffolds for Tissue Engineering Applications. Polymers, 2020, 12, 1233.	4.5	45
62	Controlling cellular organization in bioprinting through designed 3D microcompartmentalization. Applied Physics Reviews, 2021, 8, 021404.	11.3	45
63	In situ printing of scaffolds for reconstruction of bone defects. Acta Biomaterialia, 2021, 127, 313-326.	8.3	41
64	Nanofibrous Scaffolds with Biomimetic Composition for Skin Regeneration. Applied Biochemistry and Biotechnology, 2019, 187, 1193-1203.	2.9	40
65	Numerical analysis of the curvature effects on Ranqueâ€"Hilsch vortex tube refrigerators. Applied Thermal Engineering, 2014, 65, 176-183.	6.0	37
66	The Positive Role of Curcumin-Loaded Salmon Nanoliposomes on the Culture of Primary Cortical Neurons. Marine Drugs, 2018, 16, 218.	4.6	37
67	Sustainable drug release from polycaprolactone coated chitin-lignin gel fibrous scaffolds. Scientific Reports, 2020, 10, 20428.	3.3	37
68	Fibrous Systems as Potential Solutions for Tendon and Ligament Repair, Healing, and Regeneration. Advanced Healthcare Materials, 2021, 10, e2001305.	7.6	35
69	Adenosine-associated delivery systems. Journal of Drug Targeting, 2015, 23, 580-596.	4.4	34
70	Serpentine and leading-edge capillary pumps for microfluidic capillary systems. Microfluidics and Nanofluidics, 2015, 18, 357-366.	2.2	34
71	Ultrasound induced strain cytoskeleton rearrangement: An experimental and simulation study. Journal of Biomechanics, 2017, 60, 39-47.	2.1	34
72	Natural lecithin promotes neural network complexity and activity. Scientific Reports, 2016, 6, 25777.	3.3	33

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73	Measurement of pressure drop and flow resistance in microchannels with integrated micropillars. Microfluidics and Nanofluidics, 2013, 14, 711-721.	2.2	32
74	3Dâ€Printed Hydrogelâ€Filled Microneedle Arrays. Advanced Healthcare Materials, 2021, 10, e2001922.	7.6	32
75	Multimodal sensing and therapeutic systems for wound healing and management: A review. Sensors and Actuators Reports, 2022, 4, 100075.	4.4	32
76	Textile Processes for Engineering Tissues with Biomimetic Architectures and Properties. Trends in Biotechnology, 2016, 34, 683-685.	9.3	31
77	3Dâ€Printed Sugarâ€Based Stents Facilitating Vascular Anastomosis. Advanced Healthcare Materials, 2018, 7, e1800702.	7.6	30
78	Breathable hydrogel dressings containing natural antioxidants for management of skin disorders. Journal of Biomaterials Applications, 2019, 33, 1265-1276.	2.4	30
79	In situ bioprinting: intraoperative implementation of regenerative medicine. Trends in Biotechnology, 2022, 40, 1229-1247.	9.3	30
80	Microfibrous silver-coated polymeric scaffolds with tunable mechanical properties. RSC Advances, 2017, 7, 34331-34338.	3.6	29
81	Customizable Composite Fibers for Engineering Skeletal Muscle Models. ACS Biomaterials Science and Engineering, 2020, 6, 1112-1123.	5.2	29
82	Colloidal multiscale porous adhesive (bio)inks facilitate scaffold integration. Applied Physics Reviews, 2021, 8, 041415.	11.3	28
83	Ischemic optic neuropathy as a model of neurodegenerative disorder: A review of pathogenic mechanism of axonal degeneration and the role of neuroprotection. Journal of the Neurological Sciences, 2017, 375, 430-441.	0.6	27
84	Miniaturized Needle Arrayâ€Mediated Drug Delivery Accelerates Wound Healing. Advanced Healthcare Materials, 2021, 10, e2001800.	7.6	27
85	Nanofibrous scaffolds with biomimetic structure. Journal of Biomedical Materials Research - Part A, 2018, 106, 370-376.	4.0	25
86	Cellâ€laden composite suture threads for repairing damaged tendons. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, 1039-1048.	2.7	25
87	Morphological and Physical Analysis of Natural Phospholipids-Based Biomembranes. PLoS ONE, 2014, 9, e107435.	2.5	24
88	A paper-based in vitro model for on-chip investigation of the human respiratory system. Lab on A Chip, 2016, 16, 4319-4325.	6.0	24
89	Nanofibrous Silver-Coated Polymeric Scaffolds with Tunable Electrical Properties. Nanomaterials, 2017, 7, 63.	4.1	23
90	The Effect of Poly (Glycerol Sebacate) Incorporation within Hybrid Chitinâ€"Lignin Solâ€"Gel Nanofibrous Scaffolds. Materials, 2018, 11, 451.	2.9	23

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91	Cholesteryl Ester Liquid Crystal Nanofibers for Tissue Engineering Applications. , 2020, 2, 1067-1073.		23
92	Nanoengineered myogenic scaffolds for skeletal muscle tissue engineering. Nanoscale, 2022, 14, 797-814.	5.6	23
93	Laterally Confined Microfluidic Patterning of Cells for Engineering Spatially Defined Vascularization. Small, 2016, 12, 5132-5139.	10.0	21
94	Neuroprotective and Anti-Inflammatory Effects of Rhus coriaria Extract in a Mouse Model of Ischemic Optic Neuropathy. Biomedicines, 2018, 6, 48.	3.2	21
95	Electrospun Nanofibrous Membranes for Preventing Tendon Adhesion. ACS Biomaterials Science and Engineering, 2020, 6, 4356-4376.	5.2	21
96	Biomarkers and diagnostic tools for detection of Helicobacter pylori. Applied Microbiology and Biotechnology, 2016, 100, 4723-4734.	3.6	20
97	A porous collagenâ€GAG scaffold promotes muscle regeneration following volumetric muscle loss injury. Wound Repair and Regeneration, 2020, 28, 61-74.	3.0	18
98	Three-Dimensional Printing Using a Maize Protein: Zein-Based Inks in Biomedical Applications. ACS Biomaterials Science and Engineering, 2021, 7, 3964-3979.	5.2	18
99	Effects of Bioactive Marine-Derived Liposomes on Two Human Breast Cancer Cell Lines. Marine Drugs, 2020, 18, 211.	4.6	17
100	Tailored electrospun small-diameter graft for vascular prosthesis. International Journal of Polymeric Materials and Polymeric Biomaterials, 2017, 66, 635-643.	3.4	16
101	Characterization, mechanistic analysis and improving the properties of denture adhesives. Dental Materials, 2018, 34, 120-131.	3.5	16
102	Physicochemical Interactions in Nanofunctionalized Alginate/GelMA IPN Hydrogels. Nanomaterials, 2021, 11, 2256.	4.1	15
103	Microfluidic Systems with Embedded Cell Culture Chambers for High-Throughput Biological Assays. ACS Applied Bio Materials, 2020, 3, 6661-6671.	4.6	13
104	Extrusion-based 3D (Bio)Printed Tissue Engineering Scaffolds: Processâ€"Structureâ€"Quality Relationships. ACS Biomaterials Science and Engineering, 2021, 7, 4694-4717.	5.2	12
105	(Bio)manufactured Solutions for Treatment of Bone Defects with an Emphasis on USâ€FDA Regulatory Science Perspective. Advanced NanoBiomed Research, 2022, 2, .	3.6	12
106	Smart flexible wound dressing with wireless drug delivery. , 2015, , .		11
107	Time dependency of morphological remodeling of endothelial cells in response to substrate stiffness. BioImpacts, 2017, 7, 41-47.	1.5	11
108	Assessment of neuroprotective properties of Rhus coriaria L. ethanol extract in an in vitro model of retinal degeneration. Journal of Herbal Medicine, 2017, 10, 45-52.	2.0	10

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109	Controlled self-assembly of microgels in microdroplets. Sensors and Actuators B: Chemical, 2021, 348, 130693.	7.8	9
110	A systematic overview of electrode configuration in electricâ€driven micropumps. Electrophoresis, 2022, 43, 1476-1520.	2.4	9
111	Hydrogen Production by Immobilized Cells of Clostridium intestinale Strain URNW Using Alginate Beads. Applied Biochemistry and Biotechnology, 2021, 193, 1558-1573.	2.9	8
112	3D Printed Anchoring Sutures for Permanent Shaping of Tissues. Macromolecular Bioscience, 2017, 17, 1700304.	4.1	7
113	Fractureâ€Resistant and Bioresorbable Drugâ€Eluting Poly(glycerol Sebacate) Coils. Advanced Therapeutics, 2019, 2, 1800109.	3.2	7
114	How can smart dressings change the future of wound care?. Journal of Wound Care, 2021, 30, 512-513.	1.2	7
115	Tissue Regeneration: A Multifunctional Polymeric Periodontal Membrane with Osteogenic and Antibacterial Characteristics (Adv. Funct. Mater. 3/2018). Advanced Functional Materials, 2018, 28, 1870021.	14.9	6
116	Nanocomposite hydrogels for tissue engineering applications. , 2020, , 499-528.		5
117	Nanoengineered Antiviral Fibrous Arrays with Rose-Thorn-Inspired Architectures. , 2021, 3, 1566-1571.		5
118	pHâ€Sensing Hydrogel Fibers: Flexible pHâ€Sensing Hydrogel Fibers for Epidermal Applications (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	7.6	4
119	Smart Bandages: Smart Bandage for Monitoring and Treatment of Chronic Wounds (Small 33/2018). Small, 2018, 14, 1870150.	10.0	4
120	Controlled release of azithromycin from polycaprolactone/chitosan nanofibrous membranes. Journal of Drug Delivery Science and Technology, 2022, 71, 103246.	3.0	4
121	Tissue Engineering: Gold Nanocomposite Bioink for Printing 3D Cardiac Constructs (Adv. Funct.) Tj ETQq1 1 0.784314 rgBT /Overlock	14.9	3
122	Bioactive Fibers: Hydrogel Templates for Rapid Manufacturing of Bioactive Fibers and 3D Constructs (Adv. Healthcare Mater. 14/2015). Advanced Healthcare Materials, 2015, 4, 2050-2050.	7.6	2
123	Corrugated Compliant Capacitor towards Smart Bandage Application. , 2021, , .		2
124	Tailoring the spatial filament organization within nanofibrous tissue engineering scaffolds. International Journal of Polymeric Materials and Polymeric Biomaterials, 2022, 71, 24-33.	3.4	1
125	Dissolvable Stents: 3D-Printed Sugar-Based Stents Facilitating Vascular Anastomosis (Adv. Healthcare) Tj ETQq1 1 0.784314 rgBT /Overl	7.6	0
126	3D printing for soft musculoskeletal tissue engineering. , 2022, , 167-200.		0