Xiaoodng Cao

List of Publications by Year
in descending order

92 papers	3,764 citations	117453 34 h-index	143772 57 g-index
95 all docs	95 docs citations	95 times ranked	5179 citing authors

#	Article	IF	Citations
1	Multifunctional Hydrogel with Good Structure Integrity, Self-Healing, and Tissue-Adhesive Property Formed by Combining Dielsâ€“Alder Click Reaction and Acylhydrazone Bond. ACS Applied Materials & Interfaces, 2015, 7, 24023-24031.	4.0	275
2	In Situ Synthesis of Robust Conductive Cellulose/Polypyrrole Composite Aerogels and Their Potential Application in Nerve Regeneration. Angewandte Chemie - International Edition, 2014, 53, 5380-5384.	7.2	186
3	3D Bioplotting of Gelatin/Alginate Scaffolds for Tissue Engineering: Influence of Crosslinking Degree and Pore Architecture on Physicochemical Properties. Journal of Materials Science and Technology, 2016, 32, 889-900.	5.6	150
4	An injectable hyaluronic acid/PEG hydrogel for cartilage tissue engineering formed by integrating enzymatic crosslinking and Dielsâ€“Alder â€œclick chemistryâ€• Polymer Chemistry, 2014, 5, 1082-1090.	1.9	143
5	Preparation and Properties of 3D Printed Alginateâ€“Chitosan Polyion Complex Hydrogels for Tissue Engineering. Polymers, 2018, 10, 664.	2.0	126
6	New nanocomposite materials reinforced with cellulose nanocrystals in nitrile rubber. Polymer Testing, 2013, 32, 819-826.	2.3	114
7	Multifunctional Conductive Hydrogel/Thermochromic Elastomer Hybrid Fibers with a Coreâ€“Shell Segmental Configuration for Wearable Strain and Temperature Sensors. ACS Applied Materials & Interfaces, 2020, 12, 7565-7574.	4.0	114
8	4D Printing of Robust Hydrogels Consisted of Agarose Nanofibers and Polyacrylamide. ACS Macro Letters, 2018, 7, 442-446.	2.3	113
9	3D printed silk-gelatin hydrogel scaffold with different porous structure and cell seeding strategy for cartilage regeneration. Bioactive Materials, 2021, 6, 3396-3410.	8.6	110
10	Sustainable carbon quantum dots from forestry and agricultural biomass with amplified photoluminescence by simple NH₄OH passivation. Journal of Materials Chemistry C, 2014, 2, 9760-9766.	2.7	92
11	An interpenetrating HA/G/CS biomimic hydrogel via Dielsâ€“Alder click chemistry for cartilage tissue engineering. Carbohydrate Polymers, 2013, 97, 188-195.	5.1	87
12	Injection and Selfâ€Assembly of Bioinspired Stem Cellâ€Laden Gelatin/Hyaluronic Acid Hybrid Microgels Promote Cartilage Repair In Vivo. Advanced Functional Materials, 2019, 29, 1906690.	7.8	82
13	Dielsâ€“Alder crosslinked HA/PEG hydrogels with high elasticity and fatigue resistance for cell encapsulation and articular cartilage tissue repair. Polymer Chemistry, 2014, 5, 5116-5123.	1.9	79
14	Preparation and properties of carboxylated styrene-butadiene rubber/cellulose nanocrystals composites. Carbohydrate Polymers, 2013, 92, 69-76.	5.1	78
15	Controllable microfluidic fabrication of Janus and microcapsule particles for drug delivery applications. RSC Advances, 2015, 5, 23181-23188.	1.7	77
16	Microgel assembly: Fabrication, characteristics and application in tissue engineering and regenerative medicine. Bioactive Materials, 2022, 9, 105-119.	8.6	73
17	Tough and Cell-Compatible Chitosan Physical Hydrogels for Mouse Bone Mesenchymal Stem Cells in Vitro. ACS Applied Materials & Interfaces, 2016, 8, 19739-19746.	4.0	70
18	miR-29b-Loaded Gold Nanoparticles Targeting to the Endoplasmic Reticulum for Synergistic Promotion of Osteogenic Differentiation. ACS Applied Materials & Interfaces, 2016, 8, 19217-19227.	4.0	64

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19	A shape memory and antibacterial cryogel with rapid hemostasis for noncompressible hemorrhage and wound healing. Chemical Engineering Journal, 2022, 428, 131005.	6.6	58
20	Engineered multifunctional nanocomposite hydrogel dressing to promote vascularization and anti-inflammation by sustained releasing of Mg2+ for diabetic wounds. Composites Part B: Engineering, 2022, 231, 109569.	5.9	58
21	High-throughput generation of hyaluronic acid microgels via microfluidics-assisted enzymatic crosslinking and/or Dielsâ€"Alder click chemistry for cell encapsulation and delivery. Applied Materials Today, 2017, 9, 49-59.	2.3	49
22	Reversible Programing of Soft Matter with Reconfigurable Mechanical Properties. Advanced Functional Materials, 2017, 27, 1605665.	7.8	46
23	A medical adhesive used in a wet environment by blending tannic acid and silk fibroin. Biomaterials Science, 2020, 8, 2694-2701.	2.6	46
24	Alginate based antimicrobial hydrogels formed by integrating Dielsâ€"Alder â€œclick chemistryâ€•and the thiolâ€"ene reaction. RSC Advances, 2018, 8, 11036-11042.	1.7	45
25	A Hyaluronic Acid Based Injectable Hydrogel Formed via Photo-Crosslinking Reaction and Thermal-Induced Diels-Alder Reaction for Cartilage Tissue Engineering. Polymers, 2018, 10, 949.	2.0	45
26	Soy protein isolate/kraft lignin composites compatibilized with methylene diphenyl diisocyanate. Journal of Applied Polymer Science, 2004, 93, 624-629.	1.3	44
27	High strength, biocompatible hydrogels with designable shapes and special hollow-formed character using chitosan and gelatin. Carbohydrate Polymers, 2017, 168, 147-152.	5.1	44
28	Effects of Molecular Weight on the Miscibility and Properties of Polyurethane/Benzyl Starch Semi-Interpenetrating Polymer Networks. Biomacromolecules, 2005, 6, 671-677.	2.6	43
29	3D printing of Cu-doped bioactive glass composite scaffolds promotes bone regeneration through activating the HIF-1Î± and TNF-Î± pathway of hUVECs. Biomaterials Science, 2021, 9, 5519-5532.	2.6	43
30	Cellulose nanocrystals reinforced foamed nitrile rubber nanocomposites. Carbohydrate Polymers, 2015, 130, 149-154.	5.1	42
31	Polymyxin B immobilized on cross-linked cellulose microspheres for endotoxin adsorption. Carbohydrate Polymers, 2016, 136, 12-18.	5.1	40
32	Structure-properties relationship of starch/waterborne polyurethane composites. Journal of Applied Polymer Science, 2003, 90, 3325-3332.	1.3	38
33	Functionalized Polypyrrole Film: Synthesis, Characterization, and Potential Applications in Chemical and Biological Sensors. ACS Applied Materials & Interfaces, 2009, 1, 1599-1606.	4.0	38
34	Degradable photothermal bioactive glass composite hydrogel for the sequential treatment of tumor-related bone defects: From anti-tumor to repairing bone defects. Chemical Engineering Journal, 2021, 419, 129520.	6.6	38
35	Engineering the cellular mechanical microenvironment to regulate stem cell chondrogenesis: Insights from a microgel model. Acta Biomaterialia, 2020, 113, 393-406.	4.1	37
36	Direct current electric field induced gradient hydrogel actuators with rapid thermo-responsive performance as soft manipulators. Journal of Materials Chemistry C, 2020, 8, 2756-2763.	2.7	35

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37	Dielsâ€"Alder Click-Based Hydrogels for Direct Spatiotemporal Postpatterning via Photoclick Chemistry. ACS Macro Letters, 2015, 4, 289-292.	2.3	34
38	Reinforced Mechanical Properties and Tunable Biodegradability in Nanoporous Cellulose Gels: Poly(<scp>l</scp>-lactide-<i>co</i>-caprolactone) Nanocomposites. Biomacromolecules, 2016, 17, 1506-1515.	2.6	32
39	Tannic acid-derived metal-phenolic networks facilitate PCL nanofiber mesh vascularization by promoting the adhesion and spreading of endothelial cells. Journal of Materials Chemistry B, 2018, 6, 2734-2738.	2.9	32
40	Assembling Microgels via Dynamic Cross-Linking Reaction Improves Printability, Microporosity, Tissue-Adhesion, and Self-Healing of Microgel Bioink for Extrusion Bioprinting. ACS Applied Materials & Interfaces, 2022, 14, 15653-15666.	4.0	32
41	Injectable dual cross-linked adhesive hyaluronic acid multifunctional hydrogel scaffolds for potential applications in cartilage repair. Polymer Chemistry, 2020, 11, 3169-3178.	1.9	30
42	One-step fabrication of polymeric hybrid particles with coreâ€"shell, patchy, patchy Janus and Janus architectures via a microfluidic-assisted phase separation process. RSC Advances, 2015, 5, 79969-79975.	1.7	27
43	Light weight, mechanically strong and biocompatible Î±-chitin aerogels from different aqueous alkali hydroxide/urea solutions. Science China Chemistry, 2016, 59, 1405-1414.	4.2	27
44	Dynamic Nanocomposite Microgel Assembly with Microporosity, Injectability, Tissueâ€Adhesion, and Sustained Drug Release Promotes Articular Cartilage Repair and Regeneration. Advanced Healthcare Materials, 2022, 11, e2102395.	3.9	27
45	Patterning Electrospun Nanofibers via Agarose Hydrogel Stamps to Spatially Coordinate Cell Orientation in Microfluidic Device. Small, 2017, 13, 1602610.	5.2	25
46	Hierarchical patterning via dynamic sacrificial printing of stimuli-responsive hydrogels. Biofabrication, 2020, 12, 035007.	3.7	25
47	Engineering topography: effects on nerve cell behaviors and applications in peripheral nerve repair. Journal of Materials Chemistry B, 2021, 9, 6310-6325.	2.9	25
48	Injectable DMEM-induced phenylboronic acid-modified hyaluronic acid self-crosslinking hydrogel for potential applications in tissue repair. Carbohydrate Polymers, 2021, 258, 117663.	5.1	25
49	Solvent Mediating the <i>in Situ</i> Self-Assembly of Polysaccharides for 3D Printing Biomimetic Tissue Scaffolds. ACS Nano, 2021, 15, 17790-17803.	7.3	25
50	Combining 3D sidewall electrodes and contraction/expansion microstructures in microchip promotes isolation of cancer cells from red blood cells. Talanta, 2019, 196, 546-555.	2.9	23
51	Engineered macroporous hydrogel scaffolds <i>via</i> pickering emulsions stabilized by MgO nanoparticles promote bone regeneration. Journal of Materials Chemistry B, 2020, 8, 6100-6114.	2.9	23
52	IFN-Î³/SrBG composite scaffolds promote osteogenesis by sequential regulation of macrophages from M1 to M2. Journal of Materials Chemistry B, 2021, 9, 1867-1876.	2.9	23
53	A versatile strategy to construct free-standing multi-furcated vessels and a complicated vascular network in heterogeneous porous scaffolds <i>via</i> combination of 3D printing and stimuli-responsive hydrogels. Materials Horizons, 2022, 9, 2393-2407.	6.4	23
54	In situ reactive compatibilization and reinforcement of peroxide dynamically vulcanized polypropylene/ethyleneâ€propyleneâ€diene monomer tpv by zinc dimethacrylate. Polymer Composites, 2013, 34, 1357-1366.	2.3	22

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55	A hydrogel actuator with flexible folding deformation and shape programming via using sodium carboxymethyl cellulose and acrylic acid. Carbohydrate Polymers, 2017, 173, 526-534.	5.1	22
56	Structure and Properties of Cellulose Films Coated with Polyurethane/Benzyl Starch Semi-IPN Coating. Industrial & Engineering Chemistry Research, 2006, 45, 4193-4199.	1.8	21
57	One-step fabrication of inorganic/organic hybrid microspheres with tunable surface texture for controlled drug release application. Journal of Materials Science: Materials in Medicine, 2016, 27, 7.	1.7	21
58	Facile Preparation of Soy Protein/Poly(vinyl alcohol) Blend Fibers with High Mechanical Performance by Wet-Spinning. Industrial & Engineering Chemistry Research, 2013, 52, 6177-6181.	1.8	20
59	Engineering poly(lactic-co-glycolic acid)/calcium carbonate microspheres with controllable topography and their cell response. Journal of Materials Chemistry B, 2013, 1, 3322.	2.9	20
60	A mesoporous silicon/poly-(dl-lactic-co-glycolic) acid microsphere for long time anti-tuberculosis drug delivery. International Journal of Pharmaceutics, 2014, 476, 116-123.	2.6	20
61	Miscibility and properties of polyurethane/benzyl starch semi-interpenetrating polymer networks. Journal of Polymer Science, Part B: Polymer Physics, 2005, 43, 603-615.	2.4	18
62	MicroRNA-activated hydrogel scaffold generated by 3D printing accelerates bone regeneration. Bioactive Materials, 2022, 10, 1-14.	8.6	18
63	Effective Spatial Separation of PC12 and NIH3T3 Cells by the Microgrooved Surface of Biocompatible Polymer Substrates. Langmuir, 2015, 31, 6797-6806.	1.6	17
64	Influence of 3D Microgrooves on C2C12 Cell Proliferation, Migration, Alignment, F-actin Protein Expression and Gene Expression. Journal of Materials Science and Technology, 2016, 32, 901-908.	5.6	17
65	Superficially porous poly(lactic-co-glycolic acid)/calcium carbonate microsphere developed by spontaneous pore-forming method for bone repair. RSC Advances, 2013, 3, 6871.	1.7	16
66	Tubular Silk Fibroin/Gelatin-Tyramine Hydrogel with Controllable Layer Structure and Its Potential Application for Tissue Engineering. ACS Biomaterials Science and Engineering, 2020, 6, 6896-6905.	2.6	16
67	Tough thermoplastic hydrogels with re-processability and recyclability for strain sensors. Journal of Materials Chemistry B, 2021, 9, 176-186.	2.9	16
68	Structure and morphology of fractions separated from mechanical-assisted enzyme hydrolyzed chitin microfibrils. Cellulose, 2015, 22, 1-8.	2.4	15
69	Engineered Fe(OH)₃ nanoparticle-coated and rhBMP-2-releasing PLGA microsphere scaffolds for promoting bone regeneration by facilitating cell homing and osteogenic differentiation. Journal of Materials Chemistry B, 2018, 6, 2831-2842.	2.9	15
70	Loose Pre-Cross-Linking Mediating Cellulose Self-Assembly for 3D Printing Strong and Tough Biomimetic Scaffolds. Biomacromolecules, 2022, 23, 877-888.	2.6	15
71	Local delivery of FTY720 in mesoporous bioactive glass improves bone regeneration by synergistically immunomodulating osteogenesis and osteoclastogenesis. Journal of Materials Chemistry B, 2020, 8, 6148-6158.	2.9	14
72	Local delivery of naringin in beta-cyclodextrin modified mesoporous bioactive glass promotes bone regeneration: from anti-inflammatory to synergistic osteogenesis and osteoclastogenesis. Biomaterials Science, 2022, 10, 1697-1712.	2.6	13

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73	Engineering PLGA doped PCL microspheres with a layered architecture and an islandâ€“sea topography. RSC Advances, 2014, 4, 9031.	1.7	12
74	Enhanced osteogenic differentiation and biomineralization in mouse mesenchymal stromal cells on a Î²-TCP robocast scaffold modified with collagen nanofibers. RSC Advances, 2016, 6, 23588-23598.	1.7	12
75	Reversibly Reconfigurable Cross-Linking Induces Fusion of Separate Chitosan Hydrogel Films. ACS Applied Bio Materials, 2018, 1, 1695-1704.	2.3	12
76	Facile development of a hollow composite microsphere with porous surface for cell delivery. Materials Letters, 2013, 111, 238-241.	1.3	10
77	In situ microfluidic fabrication of multi-shape inorganic/organic hybrid particles with controllable surface texture and porous internal structure. RSC Advances, 2015, 5, 12872-12878.	1.7	10
78	Bioactive glass activates VEGF paracrine signaling of cardiomyocytes to promote cardiac angiogenesis. Materials Science and Engineering C, 2021, 124, 112077.	3.8	10
79	High strength HA-PEG/NAGA-Gelma double network hydrogel for annulus fibrosus rupture repair. Smart Materials in Medicine, 2022, 3, 128-138.	3.7	10
80	Facile Fabrication of Hollow Hydrogel Microfiber via 3D Printing-Assisted Microfluidics and Its Application as a Biomimetic Blood Capillary. ACS Biomaterials Science and Engineering, 2021, 7, 4971-4981.	2.6	9
81	Bottomâ€up topography assembly into 3<scp>D</scp> porous scaffold to mediate cell activities. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2016, 104, 1056-1063.	1.6	8
82	Effects of Ethyl and Benzyl Groups on the Miscibility and Properties of Castor Oil-Based Polyurethane/Starch Derivative Semi-Interpenetrating Polymer Networks. Macromolecular Bioscience, 2005, 5, 863-871.	2.1	7
83	Dynamic rheology studies of carboxylated butadiene-styrene rubber/cellulose nanocrystals nanocomposites: Vulcanization process and network structures. Polymer Composites, 2015, 36, 623-629.	2.3	6
84	Thermoresponsive nanocomposite hydrogels with high mechanical strength and toughness based on a dual crosslinking strategy. Journal of Applied Polymer Science, 2021, 138, 51509.	1.3	6
85	Patterning Multi-Nanostructured Poly(l-lactic acid) Fibrous Matrices to Manipulate Biomolecule Distribution and Functions. ACS Applied Materials & Interfaces, 2018, 10, 8465-8473.	4.0	5
86	Effect of Mineralized Layer Topographies on Stem Cell Behavior in Microsphere Scaffold. Journal of Materials Science and Technology, 2016, 32, 971-977.	5.6	3
87	Mineralization of a superficially porous microsphere scaffold via plasma modification. RSC Advances, 2017, 7, 3521-3527.	1.7	3
88	Effective Enzyme Coimmobilization and Synergistic Catalysis on Hierarchically Porous Inorganic/Organic Hybrid Microbeads Fabricated Via Dropletâ€Based Microfluidics. Macromolecular Chemistry and Physics, 2018, 219, 1800106.	1.1	3
89	The cardioprotective effect and mechanism of bioactive glass on myocardial reperfusion injury. Biomedical Materials (Bristol), 2021, 16, 045044.	1.7	2
90	In Situ Formation of Microgel Array Via Patterned Electrospun Nanofibers Promotes 3D Cell Culture and Drug Testing in a Microphysiological System. ACS Applied Bio Materials, 2021, 4, 6209-6218.	2.3	2

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91	The method to get fuzzy rules based on AFS structure. , 2008, , .		0
92	Preparation and properties of polyurethane/benzyl amylose semiâ€interpenetrating networks. Journal of Applied Polymer Science, 2010, 116, 1299-1305.	1.3	0