Jin Qian

List of Publications by Year
in descending order

79 papers	2,724 citations	201674 27 h-index	189892 50 g-index
79 all docs	79 docs citations	79 times ranked	3245 citing authors

#	Article	IF	Citations
1	Metal-Coordination Complexes Mediated Physical Hydrogels with High Toughness, Stickâ€“Slip Tearing Behavior, and Good Processability. Macromolecules, 2016, 49, 9637-9646.	4.8	320
2	Programmed Deformations of 3Dâ€Printed Tough Physical Hydrogels with High Response Speed and Large Output Force. Advanced Functional Materials, 2018, 28, 1803366.	14.9	172
3	Interpenetrating polymer network hydrogels composed of chitosan and photocrosslinkable gelatin with enhanced mechanical properties for tissue engineering. Materials Science and Engineering C, 2018, 92, 612-620.	7.3	120
4	3D Printing of Ultratough Polyion Complex Hydrogels. ACS Applied Materials & Interfaces, 2016, 8, 31304-31310.	8.0	105
5	Scaling effects of wet adhesion in biological attachment systems. Acta Biomaterialia, 2006, 2, 51-58.	8.3	103
6	Lifetime and Strength of Adhesive Molecular Bond Clusters between Elastic Media. Langmuir, 2008, 24, 1262-1270.	3.5	101
7	Accelerating solar desalination in brine through ion activated hierarchically porous polyion complex hydrogels. Materials Horizons, 2020, 7, 3187-3195.	12.2	99
8	Probing mechanical principles of focal contacts in cellâ€“matrix adhesion with a coupled stochasticâ€“elastic modelling framework. Journal of the Royal Society Interface, 2011, 8, 1217-1232.	3.4	85
9	Ultrathin Î¹-Carrageenan/Chitosan Hydrogel Films with High Toughness and Antiadhesion Property. ACS Applied Materials & Interfaces, 2018, 10, 9002-9009.	8.0	82
10	Tough and Conductive Hybrid Hydrogels Enabling Facile Patterning. ACS Applied Materials & Interfaces, 2018, 10, 13685-13692.	8.0	82
11	Lifetime and Strength of Periodic Bond Clusters between Elastic Media under Inclined Loading. Biophysical Journal, 2009, 97, 2438-2445.	0.5	81
12	Nanoclay-Based Self-Supporting Responsive Nanocomposite Hydrogels for Printing Applications. ACS Applied Materials & Interfaces, 2018, 10, 10461-10470.	8.0	79
13	Light-triggered topological programmability in a dynamic covalent polymer network. Science Advances, 2020, 6, eaaz2362.	10.3	75
14	Slide-Ring Cross-Links Mediated Tough Metallosupramolecular Hydrogels with Superior Self-Recoverability. Macromolecules, 2019, 52, 6748-6755.	4.8	68
15	Direct 3D printing of a tough hydrogel incorporated with carbon nanotubes for bone regeneration. Journal of Materials Chemistry B, 2019, 7, 7207-7217.	5.8	62
16	Constitutive behaviors of tough physical hydrogels with dynamic metal-coordinated bonds. Journal of the Mechanics and Physics of Solids, 2020, 139, 103935.	4.8	56
17	Lightâ€Coded Digital Crystallinity Patterns Toward Bioinspired 4D Transformation of Shapeâ€Memory Polymers. Advanced Functional Materials, 2020, 30, 2000522.	14.9	55
18	Volumetric Deformation of Live Cells Induced by Pressure-Activated Cross-Membrane Ion Transport. Physical Review Letters, 2014, 113, 118101.	7.8	47

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19	Regulation of Catch Bonds by Rate of Force Application. Journal of Biological Chemistry, 2011, 286, 32749-32761.	3.4	46
20	Soft Matrices Suppress Cooperative Behaviors among Receptor-Ligand Bonds in Cell Adhesion. PLoS ONE, 2010, 5, e12342.	2.5	43
21	Processing tough supramolecular hydrogels with tunable strength of polyion complex. Polymer, 2016, 95, 9-17.	3.8	43
22	3D-Printed Ultratough Hydrogel Structures with Titin-like Domains. ACS Applied Materials & Interfaces, 2017, 9, 11363-11367.	8.0	39
23	A Mechanochemical Model of Cell Reorientation on Substrates under Cyclic Stretch. PLoS ONE, 2013, 8, e65864.	2.5	37
24	Thermally assisted peeling of an elastic strip in adhesion with a substrate via molecular bonds. Journal of the Mechanics and Physics of Solids, 2017, 101, 197-208.	4.8	36
25	Effects of Capillary Condensation in Adhesion between Rough Surfaces. Langmuir, 2009, 25, 11727-11731.	3.5	32
26	Integrated multifunctional flexible electronics based on tough supramolecular hydrogels with patterned silver nanowires. Journal of Materials Chemistry C, 2020, 8, 7688-7697.	5.5	32
27	The glycocalyx promotes cooperative binding and clustering of adhesion receptors. Soft Matter, 2016, 12, 4572-4583.	2.7	31
28	Ultrastiff Hydrogels Prepared by Schiff's Base Reaction of Bis(pâ€Formylphenyl) Sebacate and Pillar[5]arene Appended with Multiple Hydrazides. Macromolecular Rapid Communications, 2017, 38, 1700232.	3.9	31
29	Chiral geometry regulates stem cell fate and activity. Biomaterials, 2019, 222, 119456.	11.4	26
30	Mechanics of dielectric elastomers: materials, structures, and devices. Journal of Zhejiang University: Science A, 2016, 17, 1-21.	2.4	24
31	Response of biopolymer networks governed by the physical properties of cross-linking molecules. Soft Matter, 2016, 12, 2537-2541.	2.7	24
32	A combined finite element-Langevin dynamics (FEM-LD) approach for analyzing the mechanical response of bio-polymer networks. Journal of the Mechanics and Physics of Solids, 2014, 62, 2-18.	4.8	22
33	Aggregation dynamics of molecular bonds between compliant materials. Soft Matter, 2015, 11, 2812-2820.	2.7	22
34	3D printing of a tough double-network hydrogel and its use as a scaffold to construct a tissue-like hydrogel composite. Journal of Materials Chemistry B, 2022, 10, 468-476.	5.8	22
35	Tough polyion complex hydrogel films of natural polysaccharides. Chinese Journal of Polymer Science (English Edition), 2017, 35, 1276-1285.	3.8	18
36	Modeling and Simulations of the Dynamic Behaviors of Actin-Based Cytoskeletal Networks. ACS Biomaterials Science and Engineering, 2019, 5, 3720-3734.	5.2	18

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37	Fracture of tough and stiff metallosupramolecular hydrogels. Materials Today Physics, 2020, 13, 100202.	6.0	18
38	Transport Regulation of Two-Dimensional Receptor-Ligand Association. Biophysical Journal, 2015, 108, 1773-1784.	0.5	17
39	Physical understanding of axonal growth patterns on grooved substrates: groove ridge crossing versus longitudinal alignment. Bio-Design and Manufacturing, 2020, 3, 348-360.	7.7	17
40	Multi-responsive PNIPAMâ€“PEGDA hydrogel composite. Soft Matter, 2021, 17, 10421-10427.	2.7	17
41	A Network Evolution Model for Recovery of the Mullins Effect in Filled Rubbers. International Journal of Applied Mechanics, 2020, 12, 2050108.	2.2	17
42	Solventâ€Castâ€Assisted Printing of Biomimetic Morphing Hydrogel Structures with Solvent Evaporationâ€Induced Swelling Mismatch. Advanced Functional Materials, 2022, 32, 2108548.	14.9	17
43	Effect of Cyclic Stretch on Neuron Reorientation and Axon Outgrowth. Frontiers in Bioengineering and Biotechnology, 2020, 8, 597867.	4.1	16
44	Controllable Bending of Bi-hydrogel Strips with Differential Swelling. Acta Mechanica Solida Sinica, 2019, 32, 652-662.	1.9	15
45	Modeling Gel Swelling in Binary Solvents: A Thermodynamic Approach to Explaining Cosolvency and Cononsolvency Effects. International Journal of Applied Mechanics, 2019, 11, 1950050.	2.2	14
46	Statistical Pull Off of Nanoparticles Adhering to Compliant Substrates. Langmuir, 2014, 30, 6089-6094.	3.5	13
47	Shape Transformation of the Nuclear Envelope during Closed Mitosis. Biophysical Journal, 2016, 111, 2309-2316.	0.5	13
48	Cross-linked biopolymer networks with active motors: Mechanical response and intra-network transport. Journal of the Mechanics and Physics of Solids, 2019, 127, 80-93.	4.8	13
49	Sequentially Controlled Deformations of Patterned Hydrogels into 3D Configurations with Multilevel Structures. Macromolecular Rapid Communications, 2019, 40, e1800681.	3.9	13
50	Blood Viscosity in Subjects With Type 2 Diabetes Mellitus: Roles of Hyperglycemia and Elevated Plasma Fibrinogen. Frontiers in Physiology, 2022, 13, 827428.	2.8	13
51	The Plasticity of Nanofibrous Matrix Regulates Fibroblast Activation in Fibrosis. Advanced Healthcare Materials, 2021, 10, e2001856.	7.6	12
52	Tuning Molecular Adhesion via Material Anisotropy. Advanced Functional Materials, 2013, 23, 4729-4738.	14.9	11
53	Programmable Deformations of Biomimetic Composite Hydrogels Embedded with Printed Fibers. ACS Applied Materials & Interfaces, 2020, 12, 57497-57504.	8.0	11
54	Tuning interfacial patterns of molecular bonds via surface morphology. Soft Matter, 2017, 13, 5970-5976.	2.7	10

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55	Fundamental Characteristics of Neuron Adhesion Revealed by Forced Peeling and Time-Dependent Healing. Biophysical Journal, 2020, 118, 1811-1819.	0.5	10
56	Effect of Electrical and Electromechanical Stimulation on PC12 Cell Proliferation and Axon Outgrowth. Frontiers in Bioengineering and Biotechnology, 2021, 9, 757906.	4.1	10
57	Tough complex hydrogels transformed from highly swollen polyelectrolyte hydrogels based on Cu2+ coordination with anti-bacterial property. Journal of Materials Chemistry B, 0, , .	5.8	10
58	Mechanical characterization and modeling of sponge-reinforced hydrogel composites under compression. Soft Matter, 2018, 14, 4355-4363.	2.7	9
59	3D printing topographic cues for cell contact guidance: a review. Materials and Design, 2022, , 110663.	7.0	9
60	Effects of functionally graded materials on dynamics of molecular bond clusters. Science China: Physics, Mechanics and Astronomy, 2012, 55, 980-988.	5.1	8
61	Bond formation of surface-tethered receptor-ligand pairs in relative separation. Applied Physics Letters, 2013, 103, 223702.	3.3	8
62	Buckling of filamentous actin bundles in filopodial protrusions. Acta Mechanica Sinica/Lixue Xuebao, 2019, 35, 365-375.	3.4	8
63	Effects of contact surface shape on lifetime of cellular focal adhesion. Journal of Mechanics of Materials and Structures, 2011, 6, 495-510.	0.6	7
64	Combined dry and wet adhesion between a particle and an elastic substrate. Journal of Colloid and Interface Science, 2016, 483, 321-333.	9.4	7
65	3D printing of tough hydrogels based on metal coordination with a two-step crosslinking strategy. Journal of Materials Chemistry B, 2022, 10, 2126-2134.	5.8	7
66	Growing actin networks regulated by obstacle size and shape. Acta Mechanica Sinica/Lixue Xuebao, 2017, 33, 222-233.	3.4	6
67	Effects of domain unfolding and catch-like dissociation on the collective behavior of integrinâ€“fibronectin bond clusters. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 229-243.	3.4	5
68	Biointerfaces Mediated by Molecular Bonds: Cohesive Behaviors. International Journal of Applied Mechanics, 2016, 08, 1650040.	2.2	4
69	Time-dependent response of bio-polymer networks regulated by catch and slip bond-like kinetics of cross-linkers. Journal of the Mechanics and Physics of Solids, 2021, 147, 104267.	4.8	4
70	Interpretations of Receptorâ€“Ligand Dissociation Kinetics from Single-Molecule Pulling Experiments. International Journal of Applied Mechanics, 2017, 09, 1750042.	2.2	3
71	Viscoelasticity of 3D actin networks dictated by the mechanochemical characteristics of cross-linkers. Soft Matter, 2021, 17, 10177-10185.	2.7	3
72	Programming Soft Shape-Morphing Systems by Harnessing Strain Mismatch and Snap-Through Bistability: A Review. Materials, 2022, 15, 2397.	2.9	3

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73	Modeling the rate-dependent ductile-brittle transition in amorphous polymers. Acta Mechanica Sinica/Lixue Xuebao, 2022, 38, .	3.4	3
74	Interaction and fusion dynamics between cellular blebs. Journal of Biomechanics, 2018, 81, 113-121.	2.1	2
75	Concurrent Rupture of Two Molecular Bonds in Series: Implications for Dynamic Force Spectroscopy. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	2.2	1
76	Preface to the â€œSoft Matter Mechanicsâ€•Special Issue of Acta Mechanica Solida Sinica. Acta Mechanica Solida Sinica, 2019, 32, 533-534.	1.9	1
77	Coarse-grained modeling and mechanical behaviors of actin-spectrin-microtubule complex in axonal cytoskeleton. International Journal of Applied Mechanics, 0, , .	2.2	1
78	CELLULAR DYNAMICS IN RESPONSE TO MECHANICAL STIMULI. , 2015, , 81-82.		0
79	Preface to the Special Issue on the Dynamic Behaviors and Energy Absorption of Materials and Structures. Acta Mechanica Solida Sinica, 2021, 34, 781-782.	1.9	0