

Jian Ping Gong

List of Publications by Year in descending order

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436
papers

31,670
citations

6486

82
h-index

6349

163
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449
all docs

449
docs citations

449
times ranked

18137
citing authors

#	ARTICLE	IF	CITATIONS
1	Double-Network Hydrogels with Extremely High Mechanical Strength. <i>Advanced Materials</i> , 2003, 15, 1155-1158.	11.1	3,537
2	Why are double network hydrogels so tough?. <i>Soft Matter</i> , 2010, 6, 2583.	1.2	1,750
3	Physical hydrogels composed of polyampholytes demonstrate high toughness and viscoelasticity. <i>Nature Materials</i> , 2013, 12, 932-937.	13.3	1,636
4	High Mechanical Strength Double-Network Hydrogel with Bacterial Cellulose. <i>Advanced Functional Materials</i> , 2004, 14, 1124-1128.	7.8	635
5	Super tough double network hydrogels and their application as biomaterials. <i>Polymer</i> , 2012, 53, 1805-1822.	1.8	611
6	Large Strain Hysteresis and Mullins Effect of Tough Double-Network Hydrogels. <i>Macromolecules</i> , 2007, 40, 2919-2927.	2.2	573
7	Oppositely Charged Polyelectrolytes Form Tough, Self-Healing, and Rebuildable Hydrogels. <i>Advanced Materials</i> , 2015, 27, 2722-2727.	11.1	545
8	Mechanoresponsive self-growing hydrogels inspired by muscle training. <i>Science</i> , 2019, 363, 504-508.	6.0	526
9	Soft and Wet Materials: Polymer Gels. <i>Advanced Materials</i> , 1998, 10, 827-837.	11.1	519
10	Tough Physical Double-Network Hydrogels Based on Amphiphilic Triblock Copolymers. <i>Advanced Materials</i> , 2016, 28, 4884-4890.	11.1	442
11	Friction and lubrication of hydrogels—its richness and complexity. <i>Soft Matter</i> , 2006, 2, 544-552.	1.2	357
12	Materials both Tough and Soft. <i>Science</i> , 2014, 344, 161-162.	6.0	341
13	Lamellar Bilayers as Reversible Sacrificial Bonds To Toughen Hydrogel: Hysteresis, Self-Recovery, Fatigue Resistance, and Crack Blunting. <i>Macromolecules</i> , 2011, 44, 8916-8924.	2.2	322
14	Biomechanical properties of high-toughness double network hydrogels. <i>Biomaterials</i> , 2005, 26, 4468-4475.	5.7	288
15	Determination of Fracture Energy of High Strength Double Network Hydrogels. <i>Journal of Physical Chemistry B</i> , 2005, 109, 11559-11562.	1.2	261
16	True Chemical Structure of Double Network Hydrogels. <i>Macromolecules</i> , 2009, 42, 2184-2189.	2.2	258
17	Unidirectional Alignment of Lamellar Bilayer in Hydrogel: One-Dimensional Swelling, Anisotropic Modulus, and Stress/Strain Tunable Structural Color. <i>Advanced Materials</i> , 2010, 22, 5110-5114.	11.1	256
18	Microgel-Reinforced Hydrogel Films with High Mechanical Strength and Their Visible Mesoscale Fracture Structure. <i>Macromolecules</i> , 2011, 44, 7775-7781.	2.2	248

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19	A Facile Method to Fabricate Anisotropic Hydrogels with Perfectly Aligned Hierarchical Fibrous Structures. <i>Advanced Materials</i> , 2018, 30, 1704937.	11.1	244
20	Necking Phenomenon of Double-Network Gels. <i>Macromolecules</i> , 2006, 39, 4641-4645.	2.2	235
21	Tough Hydrogels with Fast, Strong, and Reversible Underwater Adhesion Based on a Multiscale Design. <i>Advanced Materials</i> , 2018, 30, e1801884.	11.1	235
22	Synthesis of Hydrogels with Extremely Low Surface Friction. <i>Journal of the American Chemical Society</i> , 2001, 123, 5582-5583.	6.6	229
23	Double-Network Hydrogels Strongly Bondable to Bones by Spontaneous Osteogenesis Penetration. <i>Advanced Materials</i> , 2016, 28, 6740-6745.	11.1	225
24	Stimuli-responsive polymer gels and their application to chemomechanical systems. <i>Progress in Polymer Science</i> , 1993, 18, 187-226.	11.8	214
25	Mechano-actuated ultrafast full-colour switching in layered photonic hydrogels. <i>Nature Communications</i> , 2014, 5, 4659.	5.8	210
26	Adjacent cationic aromatic sequences yield strong electrostatic adhesion of hydrogels in seawater. <i>Nature Communications</i> , 2019, 10, 5127.	5.8	202
27	Structural Characteristics of Double Network Gels with Extremely High Mechanical Strength. <i>Macromolecules</i> , 2004, 37, 5370-5374.	2.2	198
28	Characterization of internal fracture process of double network hydrogels under uniaxial elongation. <i>Soft Matter</i> , 2013, 9, 1955-1966.	1.2	195
29	Self-Healing Behaviors of Tough Polyampholyte Hydrogels. <i>Macromolecules</i> , 2016, 49, 4245-4252.	2.2	191
30	Fabrication of Bioinspired Hydrogels: Challenges and Opportunities. <i>Macromolecules</i> , 2020, 53, 2769-2782.	2.2	185
31	Bioinspired Underwater Adhesives. <i>Advanced Materials</i> , 2021, 33, e2102983.	11.1	178
32	Effect of Polymer Entanglement on the Toughening of Double Network Hydrogels. <i>Journal of Physical Chemistry B</i> , 2005, 109, 16304-16309.	1.2	177
33	A Universal Molecular Stent Method to Toughen any Hydrogels Based on Double Network Concept. <i>Advanced Functional Materials</i> , 2012, 22, 4426-4432.	7.8	175
34	Transition between Phantom and Affine Network Model Observed in Polymer Gels with Controlled Network Structure. <i>Macromolecules</i> , 2013, 46, 1035-1040.	2.2	172
35	Titration Behavior and Spectral Transitions of Water-Soluble Polythiophene Carboxylic Acids. <i>Macromolecules</i> , 1999, 32, 3964-3969.	2.2	171
36	Mechanically Strong Hydrogels with Ultra-Low Frictional Coefficients. <i>Advanced Materials</i> , 2005, 17, 535-538.	11.1	166

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37	Inorganic/Organic Double-Network Gels Containing Ionic Liquids. <i>Advanced Materials</i> , 2017, 29, 1704118.	11.1	165
38	Self-Adjustable Adhesion of Polyampholyte Hydrogels. <i>Advanced Materials</i> , 2015, 27, 7344-7348.	11.1	160
39	Gel friction: A model based on surface repulsion and adsorption. <i>Journal of Chemical Physics</i> , 1998, 109, 8062-8068.	1.2	157
40	A Novel Double-Network Hydrogel Induces Spontaneous Articular Cartilage Regeneration <i>in vivo</i> in a Large Osteochondral Defect. <i>Macromolecular Bioscience</i> , 2009, 9, 307-316.	2.1	157
41	Direct Observation of Damage Zone around Crack Tips in Double-Network Gels. <i>Macromolecules</i> , 2009, 42, 3852-3855.	2.2	156
42	Proteoglycans and Glycosaminoglycans Improve Toughness of Biocompatible Double Network Hydrogels. <i>Advanced Materials</i> , 2014, 26, 436-442.	11.1	155
43	Lamellar Hydrogels with High Toughness and Ternary Tunable Photonic Stop-Band. <i>Advanced Materials</i> , 2013, 25, 3106-3110.	11.1	152
44	Highly Extensible Double-Network Gels with Self-Assembling Anisotropic Structure. <i>Advanced Materials</i> , 2008, 20, 4499-4503.	11.1	151
45	Barnacle Cement Proteins-Inspired Tough Hydrogels with Robust, Long-Lasting, and Repeatable Underwater Adhesion. <i>Advanced Functional Materials</i> , 2021, 31, 2009334.	7.8	148
46	Friction of Gels. 3. Friction on Solid Surfaces. <i>Journal of Physical Chemistry B</i> , 1999, 103, 6001-6006.	1.2	140
47	Polymer Gels. <i>Journal of Macromolecular Science - Reviews in Macromolecular Chemistry and Physics</i> , 2004, 44, 87-112.	2.2	138
48	Biodegradation of high-toughness double network hydrogels as potential materials for artificial cartilage. <i>Journal of Biomedical Materials Research - Part A</i> , 2007, 81A, 373-380.	2.1	138
49	Friction of Gels. 4. Friction on Charged Gels. <i>Journal of Physical Chemistry B</i> , 1999, 103, 6007-6014.	1.2	134
50	Friction of Gels. <i>Journal of Physical Chemistry B</i> , 1997, 101, 5487-5489.	1.2	132
51	Phase-Separation-Induced Anomalous Stiffening, Toughening, and Self-Healing of Polyacrylamide Gels. <i>Advanced Materials</i> , 2015, 27, 6990-6998.	11.1	132
52	Importance of Entanglement between First and Second Components in High-Strength Double Network Gels. <i>Macromolecules</i> , 2007, 40, 6658-6664.	2.2	129
53	Tubular bacterial cellulose gel with oriented fibrils on the curved surface. <i>Polymer</i> , 2008, 49, 1885-1891.	1.8	126
54	Toughening hydrogels through force-triggered chemical reactions that lengthen polymer strands. <i>Science</i> , 2021, 374, 193-196.	6.0	124

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55	Crack Blunting and Advancing Behaviors of Tough and Self-healing Polyampholyte Hydrogel. <i>Macromolecules</i> , 2014, 47, 6037-6046.	2.2	123
56	Anisotropic tough double network hydrogel from fish collagen and its spontaneous in vivo bonding to bone. <i>Biomaterials</i> , 2017, 132, 85-95.	5.7	122
57	Structure Optimization and Mechanical Model for Microgel-Reinforced Hydrogels with High Strength and Toughness. <i>Macromolecules</i> , 2012, 45, 5218-5228.	2.2	119
58	Brittle to ductile transition of double network hydrogels: Mechanical balance of two networks as the key factor. <i>Polymer</i> , 2014, 55, 914-923.	1.8	119
59	Yielding Criteria of Double Network Hydrogels. <i>Macromolecules</i> , 2016, 49, 1865-1872.	2.2	119
60	Energy-Dissipative Matrices Enable Synergistic Toughening in Fiber Reinforced Soft Composites. <i>Advanced Functional Materials</i> , 2017, 27, 1605350.	7.8	116
61	Effects of polyelectrolyte complexation on the UCST of zwitterionic polymer. <i>Polymer</i> , 2000, 41, 141-147.	1.8	110
62	Rapid and Reversible Tuning of Structural Color of a Hydrogel over the Entire Visible Spectrum by Mechanical Stimulation. <i>Chemistry of Materials</i> , 2011, 23, 5200-5207.	3.2	109
63	Robust bonding and one-step facile synthesis of tough hydrogels with desirable shape by virtue of the double network structure. <i>Polymer Chemistry</i> , 2011, 2, 575-580.	1.9	108
64	Extremely tough composites from fabric reinforced polyampholyte hydrogels. <i>Materials Horizons</i> , 2015, 2, 584-591.	6.4	108
65	Water-Induced Brittle-Ductile Transition of Double Network Hydrogels. <i>Macromolecules</i> , 2010, 43, 9495-9500.	2.2	104
66	Multiscale Energy Dissipation Mechanism in Tough and Self-Healing Hydrogels. <i>Physical Review Letters</i> , 2018, 121, 185501.	2.9	104
67	The Fracture of Highly Deformable Soft Materials: A Tale of Two Length Scales. <i>Annual Review of Condensed Matter Physics</i> , 2021, 12, 71-94.	5.2	103
68	Fracture energy of polymer gels with controlled network structures. <i>Journal of Chemical Physics</i> , 2013, 139, 144905.	1.2	102
69	Bulk Energy Dissipation Mechanism for the Fracture of Tough and Self-Healing Hydrogels. <i>Macromolecules</i> , 2017, 50, 2923-2931.	2.2	102
70	Double-Network Strategy Improves Fracture Properties of Chondroitin Sulfate Networks. <i>ACS Macro Letters</i> , 2013, 2, 137-140.	2.3	101
71	Molecular structure of self-healing polyampholyte hydrogels analyzed from tensile behaviors. <i>Soft Matter</i> , 2015, 11, 9355-9366.	1.2	100
72	Synthesis and Fracture Process Analysis of Double Network Hydrogels with a Well-Defined First Network. <i>ACS Macro Letters</i> , 2013, 2, 518-521.	2.3	99

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73	Double network hydrogels from polyzwitterions: high mechanical strength and excellent anti-biofouling properties. <i>Journal of Materials Chemistry B</i> , 2013, 1, 3685.	2.9	99
74	Instant Thermal Switching from Soft Hydrogel to Rigid Plastics Inspired by Thermophile Proteins. <i>Advanced Materials</i> , 2020, 32, e1905878.	11.1	97
75	Free Reprocessability of Tough and Self-Healing Hydrogels Based on Polyion Complex. <i>ACS Macro Letters</i> , 2015, 4, 961-964.	2.3	96
76	Shape memory behaviors of crosslinked copolymers containing stearyl acrylate. <i>Macromolecular Rapid Communications</i> , 1996, 17, 539-543.	2.0	95
77	Ligament-like tough double-network hydrogel based on bacterial cellulose. <i>Cellulose</i> , 2010, 17, 93-101.	2.4	95
78	Tunable one-dimensional photonic crystals from soft materials. <i>Journal of Photochemistry and Photobiology C: Photochemistry Reviews</i> , 2015, 23, 45-67.	5.6	93
79	Magnetism and compressive modulus of magnetic fluid containing gels. <i>Journal of Applied Physics</i> , 1999, 85, 8451-8455.	1.1	91
80	Gel Machines Constructed from Chemically Cross-linked Actins and Myosins. <i>Advanced Materials</i> , 2002, 14, 1124.	11.1	91
81	Strong and Tough Polyion-Complex Hydrogels from Oppositely Charged Polyelectrolytes: A Comparative Study with Polyampholyte Hydrogels. <i>Macromolecules</i> , 2016, 49, 2750-2760.	2.2	91
82	Fabrication of Tough and Stretchable Hybrid Double-Network Elastomers Using Ionic Dissociation of Polyelectrolyte in Nonaqueous Media. <i>Chemistry of Materials</i> , 2019, 31, 3766-3776.	3.2	86
83	Mesoscale bicontinuous networks in self-healing hydrogels delay fatigue fracture. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 7606-7612.	3.3	86
84	Cultivation of endothelial cells on adhesive protein-free synthetic polymer gels. <i>Biomaterials</i> , 2005, 26, 4588-4596.	5.7	83
85	Surface friction of polymer gels. <i>Progress in Polymer Science</i> , 2002, 27, 3-38.	11.8	81
86	Creating Stiff, Tough, and Functional Hydrogel Composites with Low Melting Point Alloys. <i>Advanced Materials</i> , 2018, 30, e1706885.	11.1	81
87	Anisotropic hydrogel based on bilayers: color, strength, toughness, and fatigue resistance. <i>Soft Matter</i> , 2012, 8, 8008.	1.2	80
88	Friction of Gels. 6. Effects of Sliding Velocity and Viscoelastic Responses of the Network. <i>Journal of Physical Chemistry B</i> , 2002, 106, 4596-4601.	1.2	78
89	Thermodynamic Interactions in Double-Network Hydrogels. <i>Journal of Physical Chemistry B</i> , 2008, 112, 3903-3909.	1.2	78
90	Formation of a strong hydrogel porous solid interface via the double-network principle. <i>Acta Biomaterialia</i> , 2010, 6, 1353-1359.	4.1	78

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91	Tough Particle-Based Double Network Hydrogels for Functional Solid Surface Coatings. <i>Advanced Materials Interfaces</i> , 2018, 5, 1801018.	1.9	78
92	Localized Yielding Around Crack Tips of Double-Network Gels. <i>Macromolecular Rapid Communications</i> , 2008, 29, 1514-1520.	2.0	77
93	Antifouling properties of hydrogels. <i>Science and Technology of Advanced Materials</i> , 2011, 12, 064706.	2.8	77
94	Fiber-Reinforced Viscoelastomers Show Extraordinary Crack Resistance That Exceeds Metals. <i>Advanced Materials</i> , 2020, 32, e1907180.	11.1	77
95	Double-network hydrogel and its potential biomedical application: A review. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2015, 229, 853-863.	1.0	76
96	Hydrogels as dynamic memory with forgetting ability. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 18962-18968.	3.3	76
97	Surface Friction of Hydrogels with Well-Defined Polyelectrolyte Brushes. <i>Langmuir</i> , 2004, 20, 6549-6555.	1.6	75
98	The molecular origin of enhanced toughness in double-network hydrogels: A neutron scattering study. <i>Polymer</i> , 2007, 48, 7449-7454.	1.8	75
99	High Fracture Efficiency and Stress Concentration Phenomenon for Microgel-Reinforced Hydrogels Based on Double-Network Principle. <i>Macromolecules</i> , 2012, 45, 9445-9451.	2.2	75
100	Polymer gels as soft and wet chemomechanical systems—an approach to artificial muscles. <i>Journal of Materials Chemistry</i> , 2002, 12, 2169-2177.	6.7	74
101	Hydrogel/Elastomer Laminates Bonded via Fabric Interphases for Stimuli-Responsive Actuators. <i>Matter</i> , 2019, 1, 674-689.	5.0	74
102	In vitro differentiation of chondrogenic ATDC5 cells is enhanced by culturing on synthetic hydrogels with various charge densities. <i>Acta Biomaterialia</i> , 2010, 6, 494-501.	4.1	73
103	Elastic-Hydrodynamic Transition of Gel Friction. <i>Langmuir</i> , 2005, 21, 8643-8648.	1.6	72
104	Polyelectrolyte Gels-Fundamentals and Applications. <i>Polymer Journal</i> , 2006, 38, 1211-1219.	1.3	71
105	Biological responses of novel high-toughness double network hydrogels in muscle and the subcutaneous tissues. <i>Journal of Materials Science: Materials in Medicine</i> , 2008, 19, 1379-1387.	1.7	71
106	Hydrogels with self-assembling ordered structures and their functions. <i>NPG Asia Materials</i> , 2011, 3, 57-64.	3.8	71
107	A phase diagram of neutral polyampholyte from solution to tough hydrogel. <i>Journal of Materials Chemistry B</i> , 2013, 1, 4555.	2.9	71
108	Network elasticity of a model hydrogel as a function of swelling ratio: from shrinking to extreme swelling states. <i>Soft Matter</i> , 2018, 14, 9693-9701.	1.2	71

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109	Facile synthesis of novel elastomers with tunable dynamics for toughness, self-healing and adhesion. <i>Journal of Materials Chemistry A</i> , 2019, 7, 17334-17344.	5.2	70
110	Ring-Shaped Assembly of Microtubules Shows Preferential Counterclockwise Motion. <i>Biomacromolecules</i> , 2008, 9, 2277-2282.	2.6	68
111	Anisotropic Hydrogel from Complexation-Driven Reorientation of Semirigid Polyanion at Ca ²⁺ Diffusion Flux Front. <i>Macromolecules</i> , 2011, 44, 3535-3541.	2.2	67
112	Effect of void structure on the toughness of double network hydrogels. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2011, 49, 1246-1254.	2.4	67
113	Environmental Responses of Polythiophene Hydrogels. <i>Macromolecules</i> , 2000, 33, 1232-1236.	2.2	66
114	Crack Tip Field of a Double-Network Gel: Visualization of Covalent Bond Scission through Mechanoradical Polymerization. <i>Macromolecules</i> , 2020, 53, 8787-8795.	2.2	65
115	Surfactant Binding of Polycations Carrying Charges on the Chain Backbone: Cooperativity, Stoichiometry and Crystallinity. <i>Macromolecules</i> , 1998, 31, 787-794.	2.2	64
116	Control superstructure of rigid polyelectrolytes in oppositely charged hydrogels via programmed internal stress. <i>Nature Communications</i> , 2014, 5, 4490.	5.8	64
117	Hydrophobic Hydrogels with Fruit-Like Structure and Functions. <i>Advanced Materials</i> , 2019, 31, e1900702.	11.1	64
118	A facile method for synthesizing free-shaped and tough double network hydrogels using physically crosslinked poly(vinyl alcohol) as an internal mold. <i>Polymer Chemistry</i> , 2010, 1, 693.	1.9	62
119	Strain-Induced Molecular Reorientation and Birefringence Reversion of a Robust, Anisotropic Double-Network Hydrogel. <i>Macromolecules</i> , 2011, 44, 3542-3547.	2.2	61
120	Friction of hydrogels with controlled surface roughness on solid flat substrates. <i>Soft Matter</i> , 2014, 10, 3192-3199.	1.2	60
121	Tough Double Network Hydrogel and Its Biomedical Applications. <i>Annual Review of Chemical and Biomolecular Engineering</i> , 2021, 12, 393-410.	3.3	60
122	Effect of Charge on Protein Diffusion in Hydrogels. <i>Journal of Physical Chemistry B</i> , 2000, 104, 9898-9903.	1.2	59
123	Friction of Gels. 5. Negative Load Dependence of Polysaccharide Gels. <i>Journal of Physical Chemistry B</i> , 2000, 104, 3423-3428.	1.2	58
124	Ultrathin tough double network hydrogels showing adjustable muscle-like isometric force generation triggered by solvent. <i>Chemical Communications</i> , 2009, , 7518.	2.2	58
125	Dynamic cell behavior on synthetic hydrogels with different charge densities. <i>Soft Matter</i> , 2009, 5, 1804.	1.2	56
126	Solvent-driven chemical motor. <i>Applied Physics Letters</i> , 1998, 73, 2366-2368.	1.5	55

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127	Fracture Process of Microgel-Reinforced Hydrogels under Uniaxial Tension. <i>Macromolecules</i> , 2014, 47, 3587-3594.	2.2	55
128	Heterogeneous Polymerization of Hydrogels on Hydrophobic Substrate. <i>Journal of Physical Chemistry B</i> , 2001, 105, 4565-4571.	1.2	54
129	Prolongation of the Active Lifetime of a Biomolecular Motor for in Vitro Motility Assay by Using an Inert Atmosphere. <i>Langmuir</i> , 2011, 27, 13659-13668.	1.6	54
130	Controlled Motion of Solvent-Driven Gel Motor and Its Application as a Generator. <i>Langmuir</i> , 2000, 16, 307-312.	1.6	53
131	Electrical Conductance of Polyelectrolyte Gels. <i>Journal of Physical Chemistry B</i> , 1997, 101, 740-745.	1.2	52
132	Antifouling activity of synthetic polymer gels against cyprids of the barnacle (<i>Balanus tintinnulus</i>). <i>Journal of Applied Polymer Science</i> , 2008, 108, 542-549.	0.8	52
133	Platelet adhesion to human umbilical vein endothelial cells cultured on anionic hydrogel scaffolds. <i>Biomaterials</i> , 2007, 28, 1752-1760.	5.7	50
134	Molecular Model for Toughening in Double-Network Hydrogels. <i>Journal of Physical Chemistry B</i> , 2008, 112, 8024-8031.	1.2	50
135	Soft and wet touch-sensing system made of hydrogel. <i>Macromolecular Rapid Communications</i> , 1995, 16, 713-716.	2.0	49
136	Tuning of cell proliferation on tough gels by critical charge effect. <i>Journal of Biomedical Materials Research - Part A</i> , 2009, 88A, 74-83.	2.1	49
137	Macroscale Double Networks: Design Criteria for Optimizing Strength and Toughness. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 35343-35353.	4.0	49
138	Phase Separation Behavior in Tough and Self-Healing Polyampholyte Hydrogels. <i>Macromolecules</i> , 2020, 53, 5116-5126.	2.2	49
139	Rapid reprogramming of tumour cells into cancer stem cells on double-network hydrogels. <i>Nature Biomedical Engineering</i> , 2021, 5, 914-925.	11.6	48
140	Friction between like-charged hydrogels: combined mechanisms of boundary, hydrated and elastohydrodynamic lubrication. <i>Soft Matter</i> , 2009, 5, 1879.	1.2	47
141	Hydrogels with Cylindrically Symmetric Structure at Macroscopic Scale by Self-Assembly of Semi-rigid Polyion Complex. <i>Journal of the American Chemical Society</i> , 2010, 132, 10064-10069.	6.6	47
142	Stretching-induced ion complexation in physical polyampholyte hydrogels. <i>Soft Matter</i> , 2016, 12, 8833-8840.	1.2	47
143	Tough and Self-Recoverable Thin Hydrogel Membranes for Biological Applications. <i>Advanced Functional Materials</i> , 2018, 28, 1801489.	7.8	47
144	Anisotropic Polyion-Complex Gels from Template Polymerization. <i>Advanced Materials</i> , 2005, 17, 2695-2699.	11.1	46

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145	Sensing surface mechanical deformation using active probes driven by motor proteins. <i>Nature Communications</i> , 2016, 7, 12557.	5.8	46
146	Kinetic Study of Surfactant Binding into Polymer Gel. <i>Experimental and Theoretical Analyses. Journal of Physical Chemistry B</i> , 1998, 102, 4566-4572.	1.2	45
147	Shape memory functions and motility of amphiphilic polymer gels. <i>Polymers for Advanced Technologies</i> , 2001, 12, 136-150.	1.6	45
148	Antifouling properties of tough gels against barnacles in a long-term marine environment experiment. <i>Biofouling</i> , 2009, 25, 657-666.	0.8	45
149	Direct Observation on the Surface Fracture of Ultrathin Film Double-Network Hydrogels. <i>Macromolecules</i> , 2011, 44, 3016-3020.	2.2	45
150	Chemomechanical Polymer Gel with Fish-like Motion. <i>Journal of Intelligent Material Systems and Structures</i> , 1997, 8, 465-471.	1.4	44
151	Artificial cartilage made from a novel double-network hydrogel: <i>in vivo</i> effects on the normal cartilage and <i>ex vivo</i> evaluation of the friction property. <i>Journal of Biomedical Materials Research - Part A</i> , 2010, 93A, 1160-1168.	2.1	44
152	Effect of substrate adhesion and hydrophobicity on hydrogel friction. <i>Soft Matter</i> , 2008, 4, 1033.	1.2	43
153	Production of Bacterial Cellulose with Well Oriented Fibril on PDMS Substrate. <i>Polymer Journal</i> , 2008, 40, 137-142.	1.3	42
154	Creep Behavior and Delayed Fracture of Tough Polyampholyte Hydrogels by Tensile Test. <i>Macromolecules</i> , 2016, 49, 5630-5636.	2.2	42
155	Effect of Structure Heterogeneity on Mechanical Performance of Physical Polyampholytes Hydrogels. <i>Macromolecules</i> , 2019, 52, 7369-7378.	2.2	42
156	Sliding Friction of Zwitterionic Hydrogel and Its Electrostatic Origin. <i>Macromolecules</i> , 2014, 47, 3101-3107.	2.2	41
157	Anisotropic Growth of Hydroxyapatite in Stretched Double Network Hydrogel. <i>ACS Nano</i> , 2017, 11, 12103-12110.	7.3	41
158	Preparation of Tough Double- and Triple-Network Supermacroporous Hydrogels through Repeated Cryogelation. <i>Chemistry of Materials</i> , 2020, 32, 8576-8586.	3.2	41
159	Superior fracture resistance of fiber reinforced polyampholyte hydrogels achieved by extraordinarily large energy-dissipative process zones. <i>Journal of Materials Chemistry A</i> , 2019, 7, 13431-13440.	5.2	40
160	Effect of Relative Strength of Two Networks on the Internal Fracture Process of Double Network Hydrogels As Revealed by <i>in Situ</i> Small-Angle X-ray Scattering. <i>Macromolecules</i> , 2020, 53, 1154-1163.	2.2	40
161	Substrate Effect on Topographical, Elastic, and Frictional Properties of Hydrogels. <i>Macromolecules</i> , 2002, 35, 8161-8166.	2.2	39
162	Soft and Wet Materials: From Hydrogels to Biotissues. <i>Advances in Polymer Science</i> , 2010, , 203-246.	0.4	39

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