Jian Ping Gong

List of Publications by Year
in descending order

436 papers	31,670 citations	5574 82 h-index	5539 163 g-index
449 all docs	449 docs citations	449 times ranked	15931 citing authors

#	Article	IF	Citations
1	Double-Network Hydrogels with Extremely High Mechanical Strength. Advanced Materials, 2003, 15, 1155-1158.	21.0	3,537
2	Why are double network hydrogels so tough?. Soft Matter, 2010, 6, 2583.	2.7	1,750
3	Physical hydrogels composed of polyampholytes demonstrate high toughness and viscoelasticity. Nature Materials, 2013, 12, 932-937.	27.5	1,636
4	High Mechanical Strength Double-Network Hydrogel with Bacterial Cellulose. Advanced Functional Materials, 2004, 14, 1124-1128.	14.9	635
5	Super tough double network hydrogels and their application as biomaterials. Polymer, 2012, 53, 1805-1822.	3.8	611
6	Large Strain Hysteresis and Mullins Effect of Tough Double-Network Hydrogels. Macromolecules, 2007, 40, 2919-2927.	4.8	573
7	Oppositely Charged Polyelectrolytes Form Tough, Selfâ€Healing, and Rebuildable Hydrogels. Advanced Materials, 2015, 27, 2722-2727.	21.0	545
8	Mechanoresponsive self-growing hydrogels inspired by muscle training. Science, 2019, 363, 504-508.	12.6	526
9	Soft and Wet Materials: Polymer Gels. Advanced Materials, 1998, 10, 827-837.	21.0	519
10	Tough Physical Doubleâ€Network Hydrogels Based on Amphiphilic Triblock Copolymers. Advanced Materials, 2016, 28, 4884-4890.	21.0	442
11	Friction and lubrication of hydrogelsâ€"its richness and complexity. Soft Matter, 2006, 2, 544-552.	2.7	357
12	Materials both Tough and Soft. Science, 2014, 344, 161-162.	12.6	341
13	Lamellar Bilayers as Reversible Sacrificial Bonds To Toughen Hydrogel: Hysteresis, Self-Recovery, Fatigue Resistance, and Crack Blunting. Macromolecules, 2011, 44, 8916-8924.	4.8	322
14	Biomechanical properties of high-toughness double network hydrogels. Biomaterials, 2005, 26, 4468-4475.	11.4	288
15	Determination of Fracture Energy of High Strength Double Network Hydrogels. Journal of Physical Chemistry B, 2005, 109, 11559-11562.	2.6	261
16	True Chemical Structure of Double Network Hydrogels. Macromolecules, 2009, 42, 2184-2189.	4.8	258
17	Unidirectional Alignment of Lamellar Bilayer in Hydrogel: Oneâ€Dimensional Swelling, Anisotropic Modulus, and Stress/Strain Tunable Structural Color. Advanced Materials, 2010, 22, 5110-5114.	21.0	256
18	Microgel-Reinforced Hydrogel Films with High Mechanical Strength and Their Visible Mesoscale Fracture Structure. Macromolecules, 2011, 44, 7775-7781.	4.8	248

#	Article	IF	Citations
19	A Facile Method to Fabricate Anisotropic Hydrogels with Perfectly Aligned Hierarchical Fibrous Structures. Advanced Materials, 2018, 30, 1704937.	21.0	244
20	Necking Phenomenon of Double-Network Gels. Macromolecules, 2006, 39, 4641-4645.	4.8	235
21	Tough Hydrogels with Fast, Strong, and Reversible Underwater Adhesion Based on a Multiscale Design. Advanced Materials, 2018, 30, e1801884.	21.0	235
22	Synthesis of Hydrogels with Extremely Low Surface Friction. Journal of the American Chemical Society, 2001, 123, 5582-5583.	13.7	229
23	Doubleâ€Network Hydrogels Strongly Bondable to Bones by Spontaneous Osteogenesis Penetration. Advanced Materials, 2016, 28, 6740-6745.	21.0	225
24	Stimuli-responsive polymer gels and their application to chemomechanical systems. Progress in Polymer Science, 1993, 18, 187-226.	24.7	214
25	Mechano-actuated ultrafast full-colour switching in layered photonic hydrogels. Nature Communications, 2014, 5, 4659.	12.8	210
26	Adjacent cationicâ€"aromatic sequences yield strong electrostatic adhesion of hydrogels in seawater. Nature Communications, 2019, 10, 5127.	12.8	202
27	Structural Characteristics of Double Network Gels with Extremely High Mechanical Strength. Macromolecules, 2004, 37, 5370-5374.	4.8	198
28	Characterization of internal fracture process of double network hydrogels under uniaxial elongation. Soft Matter, 2013, 9, 1955-1966.	2.7	195
29	Self-Healing Behaviors of Tough Polyampholyte Hydrogels. Macromolecules, 2016, 49, 4245-4252.	4.8	191
30	Fabrication of Bioinspired Hydrogels: Challenges and Opportunities. Macromolecules, 2020, 53, 2769-2782.	4.8	185
31	Bioinspired Underwater Adhesives. Advanced Materials, 2021, 33, e2102983.	21.0	178
32	Effect of Polymer Entanglement on the Toughening of Double Network Hydrogels. Journal of Physical Chemistry B, 2005, 109, 16304-16309.	2.6	177
33	A Universal Molecular Stent Method to Toughen any Hydrogels Based on Double Network Concept. Advanced Functional Materials, 2012, 22, 4426-4432.	14.9	175
34	Transition between Phantom and Affine Network Model Observed in Polymer Gels with Controlled Network Structure. Macromolecules, 2013, 46, 1035-1040.	4.8	172
35	Titration Behavior and Spectral Transitions of Water-Soluble Polythiophene Carboxylic Acids. Macromolecules, 1999, 32, 3964-3969.	4.8	171
36	Mechanically Strong Hydrogels with Ultra-Low Frictional Coefficients. Advanced Materials, 2005, 17, 535-538.	21.0	166

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37	Inorganic/Organic Doubleâ€Network Gels Containing Ionic Liquids. Advanced Materials, 2017, 29, 1704118.	21.0	165
38	Selfâ€Adjustable Adhesion of Polyampholyte Hydrogels. Advanced Materials, 2015, 27, 7344-7348.	21.0	160
39	Gel friction: A model based on surface repulsion and adsorption. Journal of Chemical Physics, 1998, 109, 8062-8068.	3.0	157
40	A Novel Doubleâ€Network Hydrogel Induces Spontaneous Articular Cartilage Regeneration <i>in vivo</i> in a Large Osteochondral Defect. Macromolecular Bioscience, 2009, 9, 307-316.	4.1	157
41	Direct Observation of Damage Zone around Crack Tips in Double-Network Gels. Macromolecules, 2009, 42, 3852-3855.	4.8	156
42	Proteoglycans and Glycosaminoglycans Improve Toughness of Biocompatible Double Network Hydrogels. Advanced Materials, 2014, 26, 436-442.	21.0	155
43	Lamellar Hydrogels with High Toughness and Ternary Tunable Photonic Stopâ€Band. Advanced Materials, 2013, 25, 3106-3110.	21.0	152
44	Highly Extensible Doubleâ€Network Gels with Selfâ€Assembling Anisotropic Structure. Advanced Materials, 2008, 20, 4499-4503.	21.0	151
45	Barnacle Cement Proteinsâ€Inspired Tough Hydrogels with Robust, Longâ€Lasting, and Repeatable Underwater Adhesion. Advanced Functional Materials, 2021, 31, 2009334.	14.9	148
46	Friction of Gels. 3. Friction on Solid Surfaces. Journal of Physical Chemistry B, 1999, 103, 6001-6006.	2.6	140
47	Polymer Gels. Journal of Macromolecular Science - Reviews in Macromolecular Chemistry and Physics, 2004, 44, 87-112.	2.2	138
48	Biodegradation of high-toughness double network hydrogels as potential materials for artificial cartilage. Journal of Biomedical Materials Research - Part A, 2007, 81A, 373-380.	4.0	138
49	Friction of Gels. 4. Friction on Charged Gels. Journal of Physical Chemistry B, 1999, 103, 6007-6014.	2.6	134
50	Friction of Gels. Journal of Physical Chemistry B, 1997, 101, 5487-5489.	2.6	132
51	Phaseâ€Separationâ€Induced Anomalous Stiffening, Toughening, and Selfâ€Healing of Polyacrylamide Gels. Advanced Materials, 2015, 27, 6990-6998.	21.0	132
52	Importance of Entanglement between First and Second Components in High-Strength Double Network Gels. Macromolecules, 2007, 40, 6658-6664.	4.8	129
53	Tubular bacterial cellulose gel with oriented fibrils on the curved surface. Polymer, 2008, 49, 1885-1891.	3.8	126
54	Toughening hydrogels through force-triggered chemical reactions that lengthen polymer strands. Science, 2021, 374, 193-196.	12.6	124

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55	Crack Blunting and Advancing Behaviors of Tough and Self-healing Polyampholyte Hydrogel. Macromolecules, 2014, 47, 6037-6046.	4.8	123
56	Anisotropic tough double network hydrogel from fish collagen and its spontaneous inÂvivo bonding to bone. Biomaterials, 2017, 132, 85-95.	11.4	122
57	Structure Optimization and Mechanical Model for Microgel-Reinforced Hydrogels with High Strength and Toughness. Macromolecules, 2012, 45, 5218-5228.	4.8	119
58	Brittleâ€"ductile transition of double network hydrogels: Mechanical balance of two networks as the key factor. Polymer, 2014, 55, 914-923.	3.8	119
59	Yielding Criteria of Double Network Hydrogels. Macromolecules, 2016, 49, 1865-1872.	4.8	119
60	Energyâ€Dissipative Matrices Enable Synergistic Toughening in Fiber Reinforced Soft Composites. Advanced Functional Materials, 2017, 27, 1605350.	14.9	116
61	Effects of polyelectrolyte complexation on the UCST of zwitterionic polymer. Polymer, 2000, 41, 141-147.	3.8	110
62	Rapid and Reversible Tuning of Structural Color of a Hydrogel over the Entire Visible Spectrum by Mechanical Stimulation. Chemistry of Materials, 2011, 23, 5200-5207.	6.7	109
63	Robust bonding and one-step facile synthesis of tough hydrogels with desirable shape by virtue of the double network structure. Polymer Chemistry, 2011, 2, 575-580.	3.9	108
64	Extremely tough composites from fabric reinforced polyampholyte hydrogels. Materials Horizons, 2015, 2, 584-591.	12.2	108
65	Water-Induced Brittle-Ductile Transition of Double Network Hydrogels. Macromolecules, 2010, 43, 9495-9500.	4.8	104
66	Multiscale Energy Dissipation Mechanism in Tough and Self-Healing Hydrogels. Physical Review Letters, 2018, 121, 185501.	7.8	104
67	The Fracture of Highly Deformable Soft Materials: A Tale of Two Length Scales. Annual Review of Condensed Matter Physics, 2021, 12, 71-94.	14.5	103
68	Fracture energy of polymer gels with controlled network structures. Journal of Chemical Physics, 2013, 139, 144905.	3.0	102
69	Bulk Energy Dissipation Mechanism for the Fracture of Tough and Self-Healing Hydrogels. Macromolecules, 2017, 50, 2923-2931.	4.8	102
70	Double-Network Strategy Improves Fracture Properties of Chondroitin Sulfate Networks. ACS Macro Letters, 2013, 2, 137-140.	4.8	101
71	Molecular structure of self-healing polyampholyte hydrogels analyzed from tensile behaviors. Soft Matter, 2015, 11, 9355-9366.	2.7	100
72	Synthesis and Fracture Process Analysis of Double Network Hydrogels with a Well-Defined First Network. ACS Macro Letters, 2013, 2, 518-521.	4.8	99

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73	Double network hydrogels from polyzwitterions: high mechanical strength and excellent anti-biofouling properties. Journal of Materials Chemistry B, 2013, 1, 3685.	5.8	99
74	Instant Thermal Switching from Soft Hydrogel to Rigid Plastics Inspired by Thermophile Proteins. Advanced Materials, 2020, 32, e1905878.	21.0	97
75	Free Reprocessability of Tough and Self-Healing Hydrogels Based on Polyion Complex. ACS Macro Letters, 2015, 4, 961-964.	4.8	96
76	Shape memory behaviors of crosslinked copolymers containing stearyl acrylate. Macromolecular Rapid Communications, 1996, 17, 539-543.	3.9	95
77	Ligament-like tough double-network hydrogel based on bacterial cellulose. Cellulose, 2010, 17, 93-101.	4.9	95
78	Tunable one-dimensional photonic crystals from soft materials. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2015, 23, 45-67.	11.6	93
79	Magnetism and compressive modulus of magnetic fluid containing gels. Journal of Applied Physics, 1999, 85, 8451-8455.	2.5	91
80	Gel Machines Constructed from Chemically Cross-linked Actins and Myosins. Advanced Materials, 2002, 14, 1124.	21.0	91
81	Strong and Tough Polyion-Complex Hydrogels from Oppositely Charged Polyelectrolytes: A Comparative Study with Polyampholyte Hydrogels. Macromolecules, 2016, 49, 2750-2760.	4.8	91
82	Fabrication of Tough and Stretchable Hybrid Double-Network Elastomers Using Ionic Dissociation of Polyelectrolyte in Nonaqueous Media. Chemistry of Materials, 2019, 31, 3766-3776.	6.7	86
83	Mesoscale bicontinuous networks in self-healing hydrogels delay fatigue fracture. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 7606-7612.	7.1	86
84	Cultivation of endothelial cells on adhesive protein-free synthetic polymer gels. Biomaterials, 2005, 26, 4588-4596.	11.4	83
85	Surface friction of polymer gels. Progress in Polymer Science, 2002, 27, 3-38.	24.7	81
86	Creating Stiff, Tough, and Functional Hydrogel Composites with Lowâ€Meltingâ€Point Alloys. Advanced Materials, 2018, 30, e1706885.	21.0	81
87	Anisotropic hydrogel based on bilayers: color, strength, toughness, and fatigue resistance. Soft Matter, 2012, 8, 8008.	2.7	80
88	Friction of Gels. 6. Effects of Sliding Velocity and Viscoelastic Responses of the Network. Journal of Physical Chemistry B, 2002, 106, 4596-4601.	2.6	78
89	Thermodynamic Interactions in Double-Network Hydrogels. Journal of Physical Chemistry B, 2008, 112, 3903-3909.	2.6	78
90	Formation of a strong hydrogelâ€"porous solid interface via the double-network principle. Acta Biomaterialia, 2010, 6, 1353-1359.	8.3	78

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91	Tough Particleâ€Based Double Network Hydrogels for Functional Solid Surface Coatings. Advanced Materials Interfaces, 2018, 5, 1801018.	3.7	78
92	Localized Yielding Around Crack Tips of Doubleâ€Network Gels. Macromolecular Rapid Communications, 2008, 29, 1514-1520.	3.9	77
93	Antifouling properties of hydrogels. Science and Technology of Advanced Materials, 2011, 12, 064706.	6.1	77
94	Fiberâ€Reinforced Viscoelastomers Show Extraordinary Crack Resistance That Exceeds Metals. Advanced Materials, 2020, 32, e1907180.	21.0	77
95	Double-network hydrogel and its potential biomedical application: A review. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2015, 229, 853-863.	1.8	76
96	Hydrogels as dynamic memory with forgetting ability. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 18962-18968.	7.1	76
97	Surface Friction of Hydrogels with Well-Defined Polyelectrolyte Brushes. Langmuir, 2004, 20, 6549-6555.	3.5	75
98	The molecular origin of enhanced toughness in double-network hydrogels: A neutron scattering study. Polymer, 2007, 48, 7449-7454.	3.8	75
99	High Fracture Efficiency and Stress Concentration Phenomenon for Microgel-Reinforced Hydrogels Based on Double-Network Principle. Macromolecules, 2012, 45, 9445-9451.	4.8	75
100	Polymer gels as soft and wet chemomechanical systemsâ€"an approach to artificial muscles. Journal of Materials Chemistry, 2002, 12, 2169-2177.	6.7	74
101	Hydrogel/Elastomer Laminates Bonded via Fabric Interphases for Stimuli-Responsive Actuators. Matter, 2019, 1, 674-689.	10.0	74
102	In vitro differentiation of chondrogenic ATDC5 cells is enhanced by culturing on synthetic hydrogels with various charge densities. Acta Biomaterialia, 2010, 6, 494-501.	8.3	73
103	Elasticâ^'Hydrodynamic Transition of Gel Friction. Langmuir, 2005, 21, 8643-8648.	3.5	72
104	Polyelectrolyte Gels-Fundamentals and Applications. Polymer Journal, 2006, 38, 1211-1219.	2.7	71
105	Biological responses of novel high-toughness double network hydrogels in muscle and the subcutaneous tissues. Journal of Materials Science: Materials in Medicine, 2008, 19, 1379-1387.	3.6	71
106	Hydrogels with self-assembling ordered structures and their functions. NPG Asia Materials, 2011, 3, 57-64.	7.9	71
107	A phase diagram of neutral polyampholyte â€" from solution to tough hydrogel. Journal of Materials Chemistry B, 2013, 1, 4555.	5.8	71
108	Network elasticity of a model hydrogel as a function of swelling ratio: from shrinking to extreme swelling states. Soft Matter, 2018, 14, 9693-9701.	2.7	71

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109	Facile synthesis of novel elastomers with tunable dynamics for toughness, self-healing and adhesion. Journal of Materials Chemistry A, 2019, 7, 17334-17344.	10.3	70
110	Ring-Shaped Assembly of Microtubules Shows Preferential Counterclockwise Motion. Biomacromolecules, 2008, 9, 2277-2282.	5.4	68
111	Anisotropic Hydrogel from Complexation-Driven Reorientation of Semirigid Polyanion at Ca²⁺ Diffusion Flux Front. Macromolecules, 2011, 44, 3535-3541.	4.8	67
112	Effect of void structure on the toughness of double network hydrogels. Journal of Polymer Science, Part B: Polymer Physics, 2011, 49, 1246-1254.	2.1	67
113	Environmental Responses of Polythiophene Hydrogels. Macromolecules, 2000, 33, 1232-1236.	4.8	66
114	Crack Tip Field of a Double-Network Gel: Visualization of Covalent Bond Scission through Mechanoradical Polymerization. Macromolecules, 2020, 53, 8787-8795.	4.8	65
115	Surfactant Binding of Polycations Carrying Charges on the Chain Backbone:Â Cooperativity, Stoichiometry and Crystallinity. Macromolecules, 1998, 31, 787-794.	4.8	64
116	Control superstructure of rigid polyelectrolytes in oppositely charged hydrogels via programmed internal stress. Nature Communications, 2014, 5, 4490.	12.8	64
117	Hydrophobic Hydrogels with Fruitâ€Like Structure and Functions. Advanced Materials, 2019, 31, e1900702.	21.0	64
118	A facile method for synthesizing free-shaped and tough double network hydrogels using physically crosslinked poly(vinyl alcohol) as an internal mold. Polymer Chemistry, 2010, 1, 693.	3.9	62
119	Strain-Induced Molecular Reorientation and Birefringence Reversion of a Robust, Anisotropic Double-Network Hydrogel. Macromolecules, 2011, 44, 3542-3547.	4.8	61
120	Friction of hydrogels with controlled surface roughness on solid flat substrates. Soft Matter, 2014, 10, 3192-3199.	2.7	60
121	Tough Double Network Hydrogel and Its Biomedical Applications. Annual Review of Chemical and Biomolecular Engineering, 2021, 12, 393-410.	6.8	60
122	Effect of Charge on Protein Diffusion in Hydrogels. Journal of Physical Chemistry B, 2000, 104, 9898-9903.	2.6	59
123	Friction of Gels. 5. Negative Load Dependence of Polysaccharide Gels. Journal of Physical Chemistry B, 2000, 104, 3423-3428.	2.6	58
124	Ultrathin tough double network hydrogels showing adjustable muscle-like isometric force generation triggered by solvent. Chemical Communications, 2009, , 7518.	4.1	58
125	Dynamic cell behavior on synthetic hydrogels with different charge densities. Soft Matter, 2009, 5, 1804.	2.7	56
126	Solvent-driven chemical motor. Applied Physics Letters, 1998, 73, 2366-2368.	3.3	55

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127	Fracture Process of Microgel-Reinforced Hydrogels under Uniaxial Tension. Macromolecules, 2014, 47, 3587-3594.	4.8	55
128	Heterogeneous Polymerization of Hydrogels on Hydrophobic Substrate. Journal of Physical Chemistry B, 2001, 105, 4565-4571.	2.6	54
129	Prolongation of the Active Lifetime of a Biomolecular Motor for in Vitro Motility Assay by Using an Inert Atmosphere. Langmuir, 2011, 27, 13659-13668.	3.5	54
130	Controlled Motion of Solvent-Driven Gel Motor and Its Application as a Generator. Langmuir, 2000, 16, 307-312.	3.5	53
131	Electrical Conductance of Polyelectrolyte Gels. Journal of Physical Chemistry B, 1997, 101, 740-745.	2.6	52
132	Antifouling activity of synthetic polymer gels against cyprids of the barnacle (<i>Balanus) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 542 Td (	2.2	52
133	Platelet adhesion to human umbilical vein endothelial cells cultured on anionic hydrogel scaffolds. Biomaterials, 2007, 28, 1752-1760.	11.4	50
134	Molecular Model for Toughening in Double-Network Hydrogels. Journal of Physical Chemistry B, 2008, 112, 8024-8031.	2.6	50
135	Soft and wet touch-sensing system made of hydrogel. Macromolecular Rapid Communications, 1995, 16, 713-716.	3.9	49
136	Tuning of cell proliferation on tough gels by critical charge effect. Journal of Biomedical Materials Research - Part A, 2009, 88A, 74-83.	4.0	49
137	Macroscale Double Networks: Design Criteria for Optimizing Strength and Toughness. ACS Applied Materials & Interfaces, 2019, 11, 35343-35353.	8.0	49
138	Phase Separation Behavior in Tough and Self-Healing Polyampholyte Hydrogels. Macromolecules, 2020, 53, 5116-5126.	4.8	49
139	Rapid reprogramming of tumour cells into cancer stem cells on double-network hydrogels. Nature Biomedical Engineering, 2021, 5, 914-925.	22.5	48
140	Friction between like-charged hydrogelsâ€"combined mechanisms of boundary, hydrated and elastohydrodynamic lubrication. Soft Matter, 2009, 5, 1879.	2.7	47
141	Hydrogels with Cylindrically Symmetric Structure at Macroscopic Scale by Self-Assembly of Semi-rigid Polyion Complex. Journal of the American Chemical Society, 2010, 132, 10064-10069.	13.7	47
142	Stretching-induced ion complexation in physical polyampholyte hydrogels. Soft Matter, 2016, 12, 8833-8840.	2.7	47
143	Tough and Selfâ€Recoverable Thin Hydrogel Membranes for Biological Applications. Advanced Functional Materials, 2018, 28, 1801489.	14.9	47
144	Anisotropic Polyion-Complex Gels from Template Polymerization. Advanced Materials, 2005, 17, 2695-2699.	21.0	46

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145	Sensing surface mechanical deformation using active probes driven by motor proteins. Nature Communications, 2016, 7, 12557.	12.8	46
146	Kinetic Study of Surfactant Binding into Polymer GelExperimental and Theoretical Analyses. Journal of Physical Chemistry B, 1998, 102, 4566-4572.	2.6	45
147	Shape memory functions and motility of amphiphilic polymer gels. Polymers for Advanced Technologies, 2001, 12, 136-150.	3.2	45
148	Antifouling properties of tough gels against barnacles in a long-term marine environment experiment. Biofouling, 2009, 25, 657-666.	2.2	45
149	Direct Observation on the Surface Fracture of Ultrathin Film Double-Network Hydrogels. Macromolecules, 2011, 44, 3016-3020.	4.8	45
150	Chemomechanical Polymer Gel with Fish-like Motion. Journal of Intelligent Material Systems and Structures, 1997, 8, 465-471.	2.5	44
151	Artificial cartilage made from a novel doubleâ€network hydrogel: <i>In vivo</i> effects on the normal cartilage and <i>ex vivo</i> evaluation of the friction property. Journal of Biomedical Materials Research - Part A, 2010, 93A, 1160-1168.	4.0	44
152	Effect of substrate adhesion and hydrophobicity on hydrogel friction. Soft Matter, 2008, 4, 1033.	2.7	43
153	Production of Bacterial Cellulose with Well Oriented Fibril on PDMS Substrate. Polymer Journal, 2008, 40, 137-142.	2.7	42
154	Creep Behavior and Delayed Fracture of Tough Polyampholyte Hydrogels by Tensile Test. Macromolecules, 2016, 49, 5630-5636.	4.8	42
155	Effect of Structure Heterogeneity on Mechanical Performance of Physical Polyampholytes Hydrogels. Macromolecules, 2019, 52, 7369-7378.	4.8	42
156	Sliding Friction of Zwitterionic Hydrogel and Its Electrostatic Origin. Macromolecules, 2014, 47, 3101-3107.	4.8	41
157	Anisotropic Growth of Hydroxyapatite in Stretched Double Network Hydrogel. ACS Nano, 2017, 11, 12103-12110.	14.6	41
158	Preparation of Tough Double- and Triple-Network Supermacroporous Hydrogels through Repeated Cryogelation. Chemistry of Materials, 2020, 32, 8576-8586.	6.7	41
159	Superior fracture resistance of fiber reinforced polyampholyte hydrogels achieved by extraordinarily large energy-dissipative process zones. Journal of Materials Chemistry A, 2019, 7, 13431-13440.	10.3	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. Macromolecules, 2020, 53, 1154-1163.	4.8	40
161	Substrate Effect on Topographical, Elastic, and Frictional Properties of Hydrogels. Macromolecules, 2002, 35, 8161-8166.	4.8	39
162	Soft and Wet Materials: From Hydrogels to Biotissues. Advances in Polymer Science, 2010, , 203-246.	0.8	39

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163	Aggregated structures and their functionalities in hydrogels. Aggregate, 2021, 2, e33.	9.9	39
164	Electroconductive organogel. 3. Preparation and properties of a charge-transfer complex gel in an organic solvent. Macromolecules, 1991, 24, 5246-5250.	4.8	38
165	Tough polyion-complex hydrogels from soft to stiff controlled by monomer structure. Polymer, 2017, 116, 487-497.	3.8	38
166	Investigation of Molecular Diffusion in Hydrogel by Electronic Speckle Pattern Interferometry. Journal of Physical Chemistry B, 1999, 103, 6069-6074.	2.6	37
167	Friction of a soft hydrogel on rough solid substrates. Soft Matter, 2008, 4, 1645.	2.7	37
168	Quantitative Observation of Electric Potential Distribution of Brittle Polyelectrolyte Hydrogels Using Microelectrode Technique. Macromolecules, 2016, 49, 3100-3108.	4.8	37
169	Elasticâ€"Plastic Transformation of Polyelectrolyte Complex Hydrogels from Chitosan and Sodium Hyaluronate. Macromolecules, 2018, 51, 8887-8898.	4.8	37
170	Effect of mesoscale phase contrast on fatigue-delaying behavior of self-healing hydrogels. Science Advances, 2021, 7, .	10.3	37
171	Nanophase Separation in Immiscible Double Network Elastomers Induces Synergetic Strengthening, Toughening, and Fatigue Resistance. Chemistry of Materials, 2021, 33, 3321-3334.	6.7	37
172	Tear Velocity Dependence of High-Strength Double Network Gels in Comparison with Fast and Slow Relaxation Modes Observed by Scanning Microscopic Light Scattering. Macromolecules, 2008, 41, 7173-7178.	4.8	36
173	Polyelectrolyte hydrogels for replacement and regeneration of biological tissues. Macromolecular Research, 2014, 22, 227-235.	2.4	36
174	Tough Double-Network Gels and Elastomers from the Nonprestretched First Network. ACS Macro Letters, 2019, 8, 1407-1412.	4.8	36
175	Micromechanical modeling of the multi-axial deformation behavior in double network hydrogels. International Journal of Plasticity, 2021, 137, 102901.	8.8	36
176	Thermoresponsive Shrinkage Triggered by Mesophase Transition in Liquid Crystalline Physical Hydrogels. Macromolecules, 2004, 37, 5385-5388.	4.8	35
177	Selective Formation of a Linear-Shaped Bundle of Microtubules. Langmuir, 2010, 26, 533-537.	3.5	35
178	Hydroxyapatite-coated double network hydrogel directly bondable to the bone: Biological and biomechanical evaluations of the bonding property in an osteochondral defect. Acta Biomaterialia, 2016, 44, 125-134.	8.3	35
179	Distinctive Characteristics of Internal Fracture in Tough Double Network Hydrogels Revealed by Various Modes of Stretching. Macromolecules, 2018, 51, 5245-5257.	4.8	35
180	Chitin-Based Double-Network Hydrogel as Potential Superficial Soft-Tissue-Repairing Materials. Biomacromolecules, 2020, 21, 4220-4230.	5.4	35

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181	Two-step surfactant binding of solvated and cross-linked poly(N -isopropylacrylamide-co-) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50	2.1	34
182	Growth of Large Polymerâ˜Actin Complexes. Bioconjugate Chemistry, 2003, 14, 1185-1190.	3.6	34
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