Zi Liang Wu

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Solventâ€Castâ€Assisted Printing of Biomimetic Morphing Hydrogel Structures with Solvent Evaporationâ€Induced Swelling Mismatch. Advanced Functional Materials, 2022, 32, 2108548.	7.8	17
2	Key progresses of MOE key laboratory of macromolecular synthesis and functionalization in 2020. Chinese Chemical Letters, 2022, 33, 1650-1658.	4.8	47
3	Paper without a Trail: Timeâ€Dependent Encryption using Pillar[5]areneâ€Based Host–Guest Invisible Ink. Advanced Materials, 2022, 34, e2108163.	11.1	68
4	Facile synthesis of tough metallosupramolecular hydrogels by using phosphates as temporary ligands of ferric ions to avoid inhibition of polymerization. Journal of Polymer Science, 2022, 60, 2280-2288.	2.0	4
5	3D printing of tough hydrogels based on metal coordination with a two-step crosslinking strategy. Journal of Materials Chemistry B, 2022, 10, 2126-2134.	2.9	7
6	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.	2.9	22
7	Multi-level encryption of information in morphing hydrogels with patterned fluorescence. Soft Matter, 2022, 18, 2149-2156.	1.2	15
8	Stretchable Sponge-like Hydrogels with a Unique Colloidal Network Produced by Polymerization-Induced Microphase Separation. Macromolecules, 2022, 55, 1424-1434.	2.2	19
9	Spontaneous and rapid electro-actuated snapping of constrained polyelectrolyte hydrogels. Science Advances, 2022, 8, eabm9608.	4.7	45
10	Programmable Morphing Hydrogels for Soft Actuators and Robots: From Structure Designs to Active Functions. Accounts of Chemical Research, 2022, 55, 1533-1545.	7.6	94
11	Recent advances in 3D printing of tough hydrogels: A review. Composites Part B: Engineering, 2022, 238, 109895.	5.9	69
12	Healable, Recyclable, and Multifunctional Soft Electronics Based on Biopolymer Hydrogel and Patterned Liquid Metal. Small, 2022, 18, e2201643.	5.2	40
13	Digital light processing 3D printing of hydrogels: a minireview. Molecular Systems Design and Engineering, 2022, 7, 1017-1029.	1.7	22
14	Digital Light Processing 3D Printing of Tough Supramolecular Hydrogels with Sophisticated Architectures as Impactâ€Absorption Elements. Advanced Materials, 2022, 34, .	11.1	46
15	Insight into acrylate copolymer dispersion with multiple interactions using large-amplitude oscillation shear. Polymer, 2021, 212, 123130.	1.8	5
16	Multi-responsive PNIPAM–PEGDA hydrogel composite. Soft Matter, 2021, 17, 10421-10427.	1.2	17
17	A Mechanically Robust and Versatile Liquidâ€Free Ionic Conductive Elastomer. Advanced Materials, 2021, 33, e2006111.	11.1	188
18	Reconstructable Gradient Structures and Reprogrammable 3D Deformations of Hydrogels with Coumarin Units as the Photolabile Crosslinks. Advanced Materials, 2021, 33, e2008057.	11.1	82

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19	Hydrogen-Bond Association-Mediated Dynamics and Viscoelastic Properties of Tough Supramolecular Hydrogels. Macromolecules, 2021, 54, 4313-4325.	2.2	77
20	Tough and fluorescent hydrogels composed of poly(hydroxyurethane) and poly(stearyl) Tj ETQq0 0 0 rgBT /Ov crosslinks. Journal of Polymer Science, 2021, 59, 904-911.	erlock 10 Tf 2.0	50 707 Td (a 15
21	Ambiently and Mechanically Stable Ionogels for Soft Ionotronics. Advanced Functional Materials, 2021, 31, 2102773.	7.8	95
22	Dual‣ncryption in a Shapeâ€Memory Hydrogel with Tunable Fluorescence and Reconfigurable Architecture. Advanced Materials, 2021, 33, e2102023.	11.1	127
23	Stimuli-Responsive Toughening of Hydrogels. Chemistry of Materials, 2021, 33, 7633-7656.	3.2	68
24	Selfâ€5haping Soft Electronics Based on Patterned Hydrogel with Stencilâ€Printed Liquid Metal. Advanced Functional Materials, 2021, 31, 2105481.	7.8	83
25	Bioinspired, Recyclable, Stretchable Hydrogel with Boundary Ultralubrication. ACS Applied Materials & Interfaces, 2021, 13, 42240-42249.	4.0	30
26	Slight Zinc Doping by an Ultrafast Electrodeposition Process Boosts the Cycling Performance of Layered Double Hydroxides for Ultralong-Life-Span Supercapacitors. ACS Applied Materials & Interfaces, 2021, 13, 38346-38357.	4.0	36
27	Plastic-Like Supramolecular Hydrogels with Polyelectrolyte/Surfactant Complexes as Physical Cross-links. Macromolecules, 2021, 54, 8052-8066.	2.2	25
28	Engineering Tough Metallosupramolecular Hydrogel Films with Kirigami Structures for Compliant Soft Electronics. Small, 2021, 17, e2103836.	5.2	75
29	Molecularly Engineered Zwitterionic Hydrogels with High Toughness and Self-Healing Capacity for Soft Electronics Applications. Chemistry of Materials, 2021, 33, 8418-8429.	3.2	85
30	Patterned Electrode Assisted One‣tep Fabrication of Biomimetic Morphing Hydrogels with Sophisticated Anisotropic Structures. Advanced Science, 2021, 8, e2102353.	5.6	35
31	Synergic influences of network topologies and associative interactions on the microstructures and bulk performances of hydrogels. Journal of Materials Chemistry B, 2021, 9, 9863-9873.	2.9	10
32	Understanding the Dissociation of Hydrogen Bond Based Cross-Links In Hydrogels Due to Hydration and Mechanical Forces. Macromolecules, 2021, 54, 11316-11325.	2.2	12
33	Carbon Dot/Poly(methylacrylic acid) Nanocomposite Hydrogels with High Toughness and Strong Fluorescence. ACS Applied Polymer Materials, 2020, 2, 1043-1052.	2.0	25
34	Accelerating solar desalination in brine through ion activated hierarchically porous polyion complex hydrogels. Materials Horizons, 2020, 7, 3187-3195.	6.4	99
35	Distributed Electric Field Induces Orientations of Nanosheets to Prepare Hydrogels with Elaborate Ordered Structures and Programmed Deformations. Advanced Materials, 2020, 32, e2005567. 	11.1	89
36	Light-steered locomotion of muscle-like hydrogel by self-coordinated shape change and friction modulation. Nature Communications, 2020, 11, 5166.	5.8	148

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37	Photoregulated Gradient Structure and Programmable Mechanical Performances of Tough Hydrogels with a Hydrogen-Bond Network. ACS Applied Materials & Interfaces, 2020, 12, 53376-53384.	4.0	17
38	Stereocomplexed and homocrystalline thermo-responsive physical hydrogels with a tunable network structure and thermo-responsiveness. Journal of Materials Chemistry B, 2020, 8, 7947-7955.	2.9	14
39	Programmable Deformations of Biomimetic Composite Hydrogels Embedded with Printed Fibers. ACS Applied Materials & Interfaces, 2020, 12, 57497-57504.	4.0	11
40	Reversibly Transforming a Highly Swollen Polyelectrolyte Hydrogel to an Extremely Tough One and its Application as a Tubular Grasper. Advanced Materials, 2020, 32, e2005171.	11.1	136
41	Integrated multifunctional flexible electronics based on tough supramolecular hydrogels with patterned silver nanowires. Journal of Materials Chemistry C, 2020, 8, 7688-7697.	2.7	32
42	Programmable Reversible Shape Transformation of Hydrogels Based on Transient Structural Anisotropy. Advanced Materials, 2020, 32, e2001693.	11.1	77
43	Hierarchical NiCo-layered double hydroxide nanoscroll@PANI nanocomposite for high performance battery-type supercapacitor. Electrochimica Acta, 2020, 338, 135869.	2.6	85
44	Constitutive behaviors of tough physical hydrogels with dynamic metal-coordinated bonds. Journal of the Mechanics and Physics of Solids, 2020, 139, 103935.	2.3	56
45	Kirigamiâ€Ðesignâ€Enabled Hydrogel Multimorphs with Application as a Multistate Switch. Advanced Materials, 2020, 32, e2000781.	11.1	93
46	Mechanochemistry of an Interlocked Poly[2]catenane: From Single Molecule to Bulk Gel. CCS Chemistry, 2020, 2, 513-523.	4.6	52
47	Programmable Multistable Hydrogel Morphs. Advanced Intelligent Systems, 2019, 1, 1900055.	3.3	14
48	Programmed Diffusion Induces Anisotropic Superstructures in Hydrogels with High Mechanoâ€Optical Sensitivity. Advanced Materials Technologies, 2019, 4, 1900665.	3.0	14
49	Thermo- and photo-responsive composite hydrogels with programmed deformations. Journal of Materials Chemistry B, 2019, 7, 1674-1678.	2.9	55
50	Photodirected Morphing Structures of Nanocomposite Shape Memory Hydrogel with High Stiffness and Toughness. ACS Applied Materials & Interfaces, 2019, 11, 43631-43640.	4.0	32
51	Slide-Ring Cross-Links Mediated Tough Metallosupramolecular Hydrogels with Superior Self-Recoverability. Macromolecules, 2019, 52, 6748-6755.	2.2	68
52	Internal Damage Evolution in Double-Network Hydrogels Studied by Microelectrode Technique. Macromolecules, 2019, 52, 7114-7122.	2.2	10
53	Anisotropic nanocomposite films of hydroxypropylcellulose and graphene oxide with multi-responsiveness. RSC Advances, 2019, 9, 28876-28885.	1.7	3
54	Reversible Ionâ€Conducting Switch in a Novel Singleâ€ion Supramolecular Hydrogel Enabled by Photoresponsive Host–Guest Molecular Recognition. Advanced Materials, 2019, 31, e1807328.	11.1	144

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55	Controllable Bending of Bi-hydrogel Strips with Differential Swelling. Acta Mechanica Solida Sinica, 2019, 32, 652-662.	1.0	15
56	Ductile "Ice― Frozen hydrogels with high ductility and compressive yielding strength. Extreme Mechanics Letters, 2019, 28, 43-49.	2.0	11
57	Tough supramolecular hydrogels with excellent self-recovery behavior mediated by metal-coordination interaction. Polymer, 2019, 171, 201-210.	1.8	36
58	Ultrastiff and Tough Supramolecular Hydrogels with a Dense and Robust Hydrogen Bond Network. Chemistry of Materials, 2019, 31, 1430-1440.	3.2	241
59	Strategy to construct polyzwitterionic hydrogel coating with antifouling, drag-reducing and weak swelling performance. RSC Advances, 2019, 9, 2081-2091.	1.7	42
60	Direct 3D printing of a tough hydrogel incorporated with carbon nanotubes for bone regeneration. Journal of Materials Chemistry B, 2019, 7, 7207-7217.	2.9	62
61	Interpenetrating thermophobic and thermophilic dual responsive networks. Journal of Polymer Science Part A, 2019, 57, 539-544.	2.5	4
62	Sequentially Controlled Deformations of Patterned Hydrogels into 3D Configurations with Multilevel Structures. Macromolecular Rapid Communications, 2019, 40, e1800681.	2.0	13
63	Improved Toughness and Stability of κ_Carrageenan/Polyacrylamide Double-Network Hydrogels by Dual Cross-Linking of the First Network. Macromolecules, 2019, 52, 629-638.	2.2	106
64	Photolithographically Patterned Hydrogels with Programmed Deformations. Chemistry - an Asian Journal, 2019, 14, 94-104.	1.7	25
65	Ultrathin κ-Carrageenan/Chitosan Hydrogel Films with High Toughness and Antiadhesion Property. ACS Applied Materials & Interfaces, 2018, 10, 9002-9009.	4.0	82
66	Dual rosslink Physical Hydrogels with High Toughness Based on Synergistic Hydrogen Bonding and Hydrophobic Interactions. Macromolecular Rapid Communications, 2018, 39, e1700806.	2.0	72
67	Tough and Conductive Hybrid Hydrogels Enabling Facile Patterning. ACS Applied Materials & Interfaces, 2018, 10, 13685-13692.	4.0	82
68	Catenane Crosslinked Mechanically Adaptive Polymer Gel. Macromolecular Rapid Communications, 2018, 39, 1700361.	2.0	43
69	Kinetic Insights into Marangoni Effect-Assisted Preparation of Ultrathin Hydrogel Films. Langmuir, 2018, 34, 12310-12317.	1.6	10
70	A Tough and Stiff Hydrogel with Tunable Water Content and Mechanical Properties Based on the Synergistic Effect of Hydrogen Bonding and Hydrophobic Interaction. Macromolecules, 2018, 51, 8136-8146.	2.2	179
71	Single Chromophore-Based White-Light-Emitting Hydrogel with Tunable Fluorescence and Patternability. ACS Applied Materials & amp; Interfaces, 2018, 10, 39343-39352.	4.0	76
72	Spin-coating-assisted fabrication of ultrathin physical hydrogel films with high toughness and fast response. Soft Matter, 2018, 14, 5888-5897.	1.2	37

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73	Programmed Deformations of 3Dâ€Printed Tough Physical Hydrogels with High Response Speed and Large Output Force. Advanced Functional Materials, 2018, 28, 1803366.	7.8	172
74	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.	3.8	120
75	Hydrogen bondâ€reinforced doubleâ€network hydrogels with ultrahigh elastic modulus and shape memory property. Journal of Polymer Science, Part B: Polymer Physics, 2018, 56, 1281-1286.	2.4	42
76	Dual Ionically Cross-linked Double-Network Hydrogels with High Strength, Toughness, Swelling Resistance, and Improved 3D Printing Processability. ACS Applied Materials & Interfaces, 2018, 10, 31198-31207.	4.0	165
77	3D-Printed Ultratough Hydrogel Structures with Titin-like Domains. ACS Applied Materials & Interfaces, 2017, 9, 11363-11367.	4.0	39
78	Hydrogen bond reinforced poly(1-vinylimidazole-co-acrylic acid) hydrogels with high toughness, fast self-recovery, and dual pH-responsiveness. Polymer, 2017, 131, 95-103.	1.8	65
79	Siteâ€5pecific Preâ€5wellingâ€Directed Morphing Structures of Patterned Hydrogels. Angewandte Chemie - International Edition, 2017, 56, 15974-15978.	7.2	105
80	Stereocomplexed physical hydrogels with high strength and tunable crystallizability. Soft Matter, 2017, 13, 8502-8510.	1.2	24
81	Cooperative deformations of periodically patterned hydrogels. Science Advances, 2017, 3, e1700348.	4.7	100
82	A Facile Approach To Prepare Tough and Responsive Ultrathin Physical Hydrogel Films as Artificial Muscles. ACS Applied Materials & Interfaces, 2017, 9, 34349-34355.	4.0	70
83	Site‧pecific Pre‧wellingâ€Ðirected Morphing Structures of Patterned Hydrogels. Angewandte Chemie, 2017, 129, 16190-16194.	1.6	12
84	Preparation of a white-light-emitting fluorescent supramolecular polymer gel with a single chromophore and use of the gel to fabricate a protected quick response code. Materials Chemistry Frontiers, 2017, 1, 167-171.	3.2	58
85	Ultrastiff Hydrogels Prepared by Schiff's Base Reaction of Bis(<i>p</i> â€Formylphenyl) Sebacate and Pillar[5]arene Appended with Multiple Hydrazides. Macromolecular Rapid Communications, 2017, 38, 1700232.	2.0	31
86	Waterâ€Triggered Selfâ€Healing Coatings of Hydrogenâ€Bonded Complexes for High Binding Affinity and Antioxidative Property. Advanced Materials Interfaces, 2016, 3, 1600167.	1.9	48
87	Light Responsive Microstructured Surfaces of Liquid Crystalline Network with Shape Memory and Tunable Wetting Behaviors. Macromolecular Rapid Communications, 2016, 37, 311-317.	2.0	19
88	Metal-Coordination Complexes Mediated Physical Hydrogels with High Toughness, Stick–Slip Tearing Behavior, and Good Processability. Macromolecules, 2016, 49, 9637-9646.	2.2	320
89	Thermoresponsive physical hydrogels of poly(lactic acid)/poly(ethylene glycol) stereoblock copolymers tuned by stereostructure and hydrophobic block sequence. Soft Matter, 2016, 12, 4628-4637.	1.2	51
90	Processing tough supramolecular hydrogels with tunable strength of polyion complex. Polymer, 2016, 95, 9-17.	1.8	43

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91	Monodomain hydrogels prepared by shear-induced orientation and subsequent gelation. RSC Advances, 2016, 6, 95239-95245.	1.7	30
92	Programmed planar-to-helical shape transformations of composite hydrogels with bioinspired layered fibrous structures. Journal of Materials Chemistry B, 2016, 4, 7075-7079.	2.9	74
93	Hydrophobic association mediated physical hydrogels with high strength and healing ability. Polymer, 2016, 100, 60-68.	1.8	68
94	3D Printing of Ultratough Polyion Complex Hydrogels. ACS Applied Materials & Interfaces, 2016, 8, 31304-31310.	4.0	105
95	Viscoelastic Behaviors of Carbon Black Gel Extracted from Highly Filled Natural Rubber Compounds: Insights into the Payne Effect. Macromolecules, 2016, 49, 1454-1463.	2.2	70
96	Supramolecular Construction of Multifluorescent Gels: Interfacial Assembly of Discrete Fluorescent Gels through Multiple Hydrogen Bonding. Advanced Materials, 2015, 27, 8062-8066.	11.1	118
97	Annealing of supporting layer to develop nanofiltration membrane with high thermal stability and ion selectivity. Journal of Membrane Science, 2015, 476, 475-482.	4.1	28
98	Solvent andCa2+triggered robust and fast stress generation by ultrathin triple-network hydrogels. Extreme Mechanics Letters, 2014, 1, 17-22.	2.0	0
99	Fracture Process of Microgel-Reinforced Hydrogels under Uniaxial Tension. Macromolecules, 2014, 47, 3587-3594.	2.2	55
100	Crosslinking of low density polyethylene with octavinyl polyhedral oligomeric silsesquioxane as the crosslinker. RSC Advances, 2014, 4, 44030-44038.	1.7	30
101	In SituObservation of Ca2+Diffusion-Induced Superstructure Formation of a Rigid Polyanion. Macromolecules, 2014, 47, 7208-7214.	2.2	20
102	Control superstructure of rigid polyelectrolytes in oppositely charged hydrogels via programmed internal stress. Nature Communications, 2014, 5, 4490.	5.8	64
103	Three-dimensional shape transformations of hydrogel sheets induced by small-scale modulation of internal stresses. Nature Communications, 2013, 4, 1586.	5.8	518
104	Multiple Shape Transformations of Composite Hydrogel Sheets. Journal of the American Chemical Society, 2013, 135, 4834-4839.	6.6	302
105	Microstructured Nematic Liquid Crystalline Elastomer Surfaces with Switchable Wetting Properties. Advanced Functional Materials, 2013, 23, 3070-3076.	7.8	63
106	Stimuli-Responsive Topological Change of Microstructured Surfaces and the Resultant Variations of Wetting Properties. ACS Applied Materials & amp; Interfaces, 2013, 5, 7485-7491.	4.0	38
107	Supramolecular Assemblies of a Semirigid Polyanion in Aqueous Solutions. Macromolecules, 2013, 46, 3581-3586.	2.2	20
108	Geometric and Edge Effects on Swelling-Induced Ordered Structure Formation in Polyelectrolyte Hydrogels. Macromolecules, 2013, 46, 9083-9090.	2.2	17

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109	High Fracture Efficiency and Stress Concentration Phenomenon for Microgel-Reinforced Hydrogels Based on Double-Network Principle. Macromolecules, 2012, 45, 9445-9451.	2.2	75
110	Structure Optimization and Mechanical Model for Microgel-Reinforced Hydrogels with High Strength and Toughness. Macromolecules, 2012, 45, 5218-5228.	2.2	119
111	Toughness Enhancement and Stick–Slip Tearing of Double-Network Hydrogels in Poly(ethylene glycol) Solution. Macromolecules, 2012, 45, 4758-4763.	2.2	29
112	Hydrogels with a macroscopic-scale liquid crystal structure by self-assembly of a semi-rigid polyion complex. Polymer Journal, 2012, 44, 503-511.	1.3	13
113	Swelling-induced long-range ordered structure formation in polyelectrolyte hydrogel. Soft Matter, 2012, 8, 8060.	1.2	22
114	Self-assembled structures of a semi-rigid polyanion in aqueous solutions and hydrogels. Science China Chemistry, 2012, 55, 735-742.	4.2	9
115	Hydrogel with cubic-packed giant concentric domains of semi-rigid polyion complex. Soft Matter, 2011, 7, 1884.	1.2	10
116	Strain-Induced Molecular Reorientation and Birefringence Reversion of a Robust, Anisotropic Double-Network Hydrogel. Macromolecules, 2011, 44, 3542-3547.	2.2	61
117	Direct Observation on the Surface Fracture of Ultrathin Film Double-Network Hydrogels. Macromolecules, 2011, 44, 3016-3020.	2.2	45
118	Anisotropic Hydrogel from Complexation-Driven Reorientation of Semirigid Polyanion at Ca ²⁺ Diffusion Flux Front. Macromolecules, 2011, 44, 3535-3541.	2.2	67
119	Microgel-Reinforced Hydrogel Films with High Mechanical Strength and Their Visible Mesoscale Fracture Structure. Macromolecules, 2011, 44, 7775-7781.	2.2	248
120	Novel Developed Systems and Techniques Based on Double-Network Principle. Bulletin of the Chemical Society of Japan, 2011, 84, 1295-1311.	2.0	33
121	Hydrogels with self-assembling ordered structures and their functions. NPG Asia Materials, 2011, 3, 57-64.	3.8	71
122	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.	6.6	47
123	Dual Network Formation in Polyelectrolyte Hydrogel via Viscoelastic Phase Separation: Role of Ionic Strength and Polymerization Kinetics. Macromolecules, 2010, 43, 8202-8208.	2.2	26
124	Mesoscopic Network Structure of a Semiâ€Rigid Polyion Complex Nested in a Polycationic Hydrogel. Advanced Materials, 2009, 21, 4696-4700.	11.1	4
125	Ultrathin tough double network hydrogels showing adjustable muscle-like isometric force generation triggered by solvent. Chemical Communications, 2009, , 7518.	2.2	58
126	Low heat generation from organic zinc as a curing activator in rubber and rubber composites under large strain. Nano Select, 0, , .	1.9	1

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127	Tough complex hydrogels transformed from highly swollen polyelectrolyte hydrogels based on Cu2+ coordination with anti-bacterial property. Journal of Materials Chemistry B, O, , .	2.9	10
128	Magnetoâ€Orientation of Magnetic Double Stacks for Patterned Anisotropic Hydrogels with Multiple Responses and Modulable Motions. Angewandte Chemie, 0, , .	1.6	2