Jinrong Wu

List of Publications by Year
in descending order

114 papers	4,063 citations	126708 33 h-index	138251 58 g-index
116 all docs	116 docs citations	116 times ranked	3675 citing authors

#	Article	IF	Citations
1	Tough Selfâ€Healing Elastomers by Molecular Enforced Integration of Covalent and Reversible Networks. Advanced Materials, 2017, 29, 1702616.	11.1	304
2	Enhanced mechanical and gas barrier properties of rubber nanocomposites with surface functionalized graphene oxide at low content. Polymer, 2013, 54, 1930-1937.	1.8	211
3	Vulcanization kinetics of graphene/natural rubber nanocomposites. Polymer, 2013, 54, 3314-3323.	1.8	166
4	Leakage-proof phase change composites supported by biomass carbon aerogels from succulents. Green Chemistry, 2018, 20, 1858-1865.	4.6	142
5	Room-temperature autonomous self-healing glassy polymers with hyperbranched structure. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 11299-11305.	3.3	134
6	Multifunctional properties of graphene/rubber nanocomposites fabricated by a modified latex compounding method. Composites Science and Technology, 2014, 99, 67-74.	3.8	133
7	Cure kinetics and morphology of natural rubber reinforced by the <i>in situ</i> polymerization of zinc dimethacrylate. Journal of Applied Polymer Science, 2010, 115, 99-106.	1.3	115
8	Super tough and strong self-healing elastomers based on polyampholytes. Journal of Materials Chemistry A, 2018, 6, 19066-19074.	5.2	112
9	Toughening rubbers with a hybrid filler network of graphene and carbon nanotubes. Journal of Materials Chemistry A, 2015, 3, 22385-22392.	5.2	106
10	Enhanced mechanical properties of graphene/natural rubber nanocomposites at low content. Polymer International, 2014, 63, 1674-1681.	1.6	87
11	Graphene oxide induced crosslinking and reinforcement of elastomers. Composites Science and Technology, 2017, 144, 223-229.	3.8	85
12	Graphene as a prominent antioxidant for diolefin elastomers. Journal of Materials Chemistry A, 2015, 3, 5942-5948.	5.2	82
13	Strong and tough self-healing elastomers enabled by dual reversible networks formed by ionic interactions and dynamic covalent bonds. Polymer, 2018, 157, 172-179.	1.8	78
14	Toughening diene elastomers by strong hydrogen bond interactions. Polymer, 2016, 106, 21-28.	1.8	76
15	Highly Stretchable and Self-Healing â€œSolidâ€"Liquidâ€•Elastomer with Strain-Rate Sensing Capability. ACS Applied Materials & Interfaces, 2019, 11, 19534-19540.	4.0	76
16	New insights into thermodynamic description of strain-induced crystallization of peroxide cross-linked natural rubber filled with clay by tube model. Polymer, 2011, 52, 3234-3242.	1.8	75
17	Entanglement-Driven Adhesion, Self-Healing, and High Stretchability of Double-Network PEG-Based Hydrogels. ACS Applied Materials & Interfaces, 2019, 11, 36458-36468.	4.0	67
18	Large-Scale Orientation in a Vulcanized Stretched Natural Rubber Network: Proved by In Situ Synchrotron X-ray Diffraction Characterization. Journal of Physical Chemistry B, 2010, 114, 7179-7188.	1.2	65

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19	Ultra-Tough, Strong, and Defect-Tolerant Elastomers with Self-Healing and Intelligent-Responsive Abilities. ACS Applied Materials & Interfaces, 2019, 11, 29373-29381.	4.0	65
20	Synergistic reinforcement of nanoclay and carbon black in natural rubber. Polymer International, 2010, 59, 1397-1402.	1.6	60
21	Super-Resolution Fluorescence Imaging of Spatial Organization of Proteins and Lipids in Natural Rubber. Biomacromolecules, 2017, 18, 1705-1712.	2.6	49
22	New evidence disclosed for the engineered strong interfacial interaction of graphene/rubber nanocomposites. Polymer, 2017, 118, 30-39.	1.8	49
23	Research on architecture and composition of natural network in natural rubber. Polymer, 2018, 154, 90-100.	1.8	44
24	An investigation on the molecular mobility through the glass transition of chlorinated butyl rubber. Polymer, 2007, 48, 7653-7659.	1.8	43
25	Correlations between dynamic fragility and dynamic mechanical properties of several amorphous polymers. Journal of Non-Crystalline Solids, 2009, 355, 1755-1759.	1.5	43
26	Natural hydrogel in American lobster: A soft armor with high toughness and strength. Acta Biomaterialia, 2019, 88, 102-110.	4.1	42
27	Study on Damping Mechanism Based on the Free Volume for CIIR by PALS. Journal of Physical Chemistry B, 2007, 111, 11388-11392.	1.2	41
28	Effects of graphene oxide on the strain-induced crystallization and mechanical properties of natural rubber crosslinked by different vulcanization systems. Polymer, 2018, 151, 279-286.	1.8	40
29	Damping mechanism of chlorobutyl rubber and phenolic resin vulcanized blends. Journal of Materials Science, 2007, 42, 7256-7262.	1.7	39
30	Thermoelectric behavior of aerogels based on graphene and multi-walled carbon nanotube nanocomposites. Composites Part B: Engineering, 2015, 83, 317-322.	5.9	37
31	Synergistic effect of CB and GO/CNT hybrid fillers on the mechanical properties and fatigue behavior of NR composites. RSC Advances, 2018, 8, 10573-10581.	1.7	35
32	Self-healing and recyclable biomass aerogel formed by electrostatic interaction. Chemical Engineering Journal, 2019, 371, 213-221.	6.6	35
33	Electron-Donating Effect Enabled Simultaneous Improvement on the Mechanical and Self-Healing Properties of Bromobutyl Rubber Ionomers. ACS Applied Materials & Interfaces, 2020, 12, 53239-53246.	4.0	35
34	Compatibility driven self-strengthening during the radical-responsive remolding process of poly-isoprene vitrimers. Journal of Materials Chemistry A, 2019, 7, 25324-25332.	5.2	34
35	Transparent, robust, water-resistant and high-barrier self-healing elastomers reinforced with dynamic supramolecular nanosheets with switchable interfacial connections. Journal of Materials Chemistry A, 2020, 8, 9013-9020.	5.2	34
36	Changes in the Viscoelastic Mechanisms of Polyisobutylene by Plasticization. Macromolecules, 2012, 45, 8051-8057.	2.2	33

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37	Tough Underwater Super-tape Composed of Semi-interpenetrating Polymer Networks with a Water-Repelling Liquid Surface. ACS Applied Materials & Interfaces, 2021, 13, 1535-1544.	4.0	33
38	Using Two-Dimensional Correlation Dynamic Mechanical Spectroscopy to Detect Different Modes of Molecular Motions in the Glassâ˘'Rubber Transition Region in Polyisobutylene. Journal of Physical Chemistry B, 2011, 115, 1775-1779.	1.2	31
39	The proper glass transition temperature of amorphous polymers on dynamic mechanical spectra. Journal of Thermal Analysis and Calorimetry, 2014, 116, 447-453.	2.0	31
40	Fundamental researches on graphene/rubber nanocomposites. Advanced Industrial and Engineering Polymer Research, 2019, 2, 32-41.	2.7	31
41	Tough, ultrastretchable and tear-resistant hydrogels enabled by linear macro-cross-linker. Polymer Chemistry, 2019, 10, 3503-3513.	1.9	31
42	Study on liquid-liquid transition of chlorinated butyl rubber by positron annihilation lifetime spectroscopy. Applied Physics Letters, 2006, 89, 121904.	1.5	30
43	Mechanically robust and shape-memory hybrid aerogels for super-insulating applications. Journal of Materials Chemistry A, 2017, 5, 15048-15055.	5.2	29
44	Three-Dimensional Programmable, Reconfigurable, and Recyclable Biomass Soft Actuators Enabled by Designing an Inverse Opal-Mimetic Structure with Exchangeable Interfacial Crosslinks. ACS Applied Materials & Interfaces, 2020, 12, 15757-15764.	4.0	29
45	Impact of hydrogen bonds dynamics on mechanical behavior of supramolecular elastomer. Polymer, 2016, 105, 221-226.	1.8	27
46	Mechanically robust, ultrastretchable and thermal conducting composite hydrogel and its biomedical applications. Chemical Engineering Journal, 2019, 360, 231-242.	6.6	27
47	Self-Healing Amorphous Polymers with Room-Temperature Phosphorescence Enabled by Boron-Based Dative Bonds. ACS Applied Polymer Materials, 2020, 2, 699-705.	2.0	27
48	Confinement effect of polystyrene on the relaxation behavior of polyisobutylene. Journal of Polymer Science, Part B: Polymer Physics, 2010, 48, 2165-2172.	2.4	26
49	Improved resistance to crack growth of natural rubber by the inclusion of nanoclay. Polymers for Advanced Technologies, 2012, 23, 85-91.	1.6	26
50	A strain-adaptive, self-healing, breathable and perceptive bottle-brush material inspired by skin. Journal of Materials Chemistry A, 2020, 8, 24645-24654.	5.2	26
51	Thermal and mechanical activation of dynamically stable ionic interaction toward self-healing strengthening elastomers. Materials Horizons, 2021, 8, 2553-2561.	6.4	26
52	Molecular motions in glass-rubber transition region in polyisobutylene investigated by two-dimensional correlation dielectric relaxation spectroscopy. Applied Physics Letters, 2011, 99, .	1.5	25
53	Enhanced electrical conductivity and mechanical property of SBS/graphene nanocomposite. Journal of Polymer Research, 2014, 21, 1.	1.2	25
54	A facile approach to the fabrication of graphene-based nanocomposites by latex mixing and in situ reduction. Colloid and Polymer Science, 2013, 291, 2279-2287.	1.0	24

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55	A Degradable and Self-Healable Vitrimer Based on Non-isocyanate Polyurethane. Frontiers in Chemistry, 2020, 8, 585569.	1.8	24
56	Wide-range linear viscoelastic hydrogels with high mechanical properties and their applications in quantifiable stress-strain sensors. Chemical Engineering Journal, 2020, 399, 125697.	6.6	24
57	Multi-functional composite aerogels enabled by chemical integration of graphene oxide and waterborne polyurethane via a facile and green method. Composites Science and Technology, 2018, 165, 175-182.	3.8	23
58	Constructing hydrophobic protection for ionic interactions toward water, acid, and base-resistant self-healing elastomers and electronic devices. Science China Materials, 2021, 64, 1780-1790.	3.5	23
59	Damping characteristics of chlorobutyl rubber/poly(ethyl acrylate)/piezoelectric ceramic/carbon black composites. Journal of Applied Polymer Science, 2008, 108, 3670-3676.	1.3	22
60	Detecting different modes of molecular motion in polyisobutylene and chlorinated butyl rubber by using dielectric probes. Soft Matter, 2011, 7, 9224.	1.2	22
61	Molecular dynamics in chlorinated butyl rubber containing organophilic montmorillonite nanoparticles. Journal of Polymer Research, 2011, 18, 2213-2220.	1.2	22
62	Enhanced power factor within graphene hybridized carbon aerogels. RSC Advances, 2015, 5, 25650-25656.	1.7	22
63	Vulcanization kinetics of graphene/styrene butadiene rubber nanocomposites. Chinese Journal of Polymer Science (English Edition), 2014, 32, 658-666.	2.0	21
64	Visualization of the self-healing process by directly observing the evolution of fluorescence intensity. Polymer Chemistry, 2021, 12, 494-500.	1.9	21
65	Dynamic crossover of the sub-Rouse modes in the glassâ€“rubber transition region in poly(n-alkyl) Tj ETQq1 1 0.784314 rgBT /Overlock	1.2	20
66	Correlations between alkyl side chain length and dynamic mechanical properties of poly(n-alkyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 30	1.8	20
67	Collective generation of milliemulsions by step-emulsification. RSC Advances, 2017, 7, 14932-14938.	1.7	20
68	Carbon nanodots as dual role of crosslinking and reinforcing chloroprene rubber. Composites Communications, 2020, 22, 100441.	3.3	20
69	Enhancing the thermoelectric property of Bi2Te3 through a facile design of interfacial phonon scattering. Journal of Alloys and Compounds, 2018, 768, 659-666.	2.8	19
70	Characterizing the naturally occurring sacrificial bond within natural rubber. Polymer, 2019, 161, 41-48.	1.8	19
71	Reinforcing self-healing and Re-processable ionomers with carbon black: An investigation on the network structure and molecular mobility. Composites Science and Technology, 2021, 216, 109035.	3.8	18
72	Nucleating effect of multi-walled carbon nanotubes and graphene on the crystallization kinetics and melting behavior of olefin block copolymers. RSC Advances, 2014, 4, 19024.	1.7	17

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73	Enhanced thermoelectric properties of hybridized conducting aerogels based on carbon nanotubes and pyrolyzed resorcinolâ€"formaldehyde resin. Synthetic Metals, 2015, 205, 64-69.	2.1	17
74	A fast-healing and high-performance metallosupramolecular elastomer based on pyridine-Cu coordination. Science China Materials, 2022, 65, 1943-1951.	3.5	17
75	Effect of Alkyl Side Chain Length on Relaxation Behaviors in Poly(n-alkyl Acrylates) and Poly(n-alkyl) Tj ETQq1 1 0.784314 rgBT /Overlock	0.4	15
76	Strainâ€induced crystallization behavior of polychloroprene rubber. Journal of Applied Polymer Science, 2011, 121, 37-42.	1.3	15
77	Strainâ€induced crystallization behavior of natural rubber and transâ€1,4â€polyisoprene crosslinked blends. Journal of Applied Polymer Science, 2011, 120, 1346-1354.	1.3	13
78	Influence of Magnetic Nanoparticle Size on the Particle Dispersion and Phase Separation in an ABA Triblock Copolymer. Journal of Physical Chemistry B, 2014, 118, 2186-2193.	1.2	13
79	Branching function of terminal phosphate groups of polyisoprene chain. Polymer, 2019, 174, 18-24.	1.8	13
80	The effects of proteins and phospholipids on the network structure of natural rubber: a rheological study in bulk and in solution. Journal of Polymer Research, 2020, 27, 1.	1.2	12
81	Relationship between the material properties and fatigue crackâ€growth characteristics of natural rubber filled with different carbon blacks. Journal of Applied Polymer Science, 2010, 117, 3441-3447.	1.3	11
82	A Shish-kebab superstructure in low-crystallinity elastomer nanocomposites: Morphology regulation and load-transfer. Macromolecular Research, 2015, 23, 537-544.	1.0	11
83	Mechanically robust, notch-insensitive, fatigue resistant and self-recoverable hydrogels with homogeneous and viscoelastic network constructed by a novel multifunctional cross-linker. Polymer, 2019, 179, 121661.	1.8	11
84	Toughening polyisoprene rubber with sacrificial bonds: The interplay between molecular mobility, energy dissipation and strain-induced crystallization. Polymer, 2021, 231, 124114.	1.8	11
85	Ultra-robust, repairable and smart physical hydrogels enabled by nano-domain reconfiguration of network topology. Chemical Engineering Journal, 2022, 450, 138085.	6.6	11
86	Structural evolution during uniaxial deformation of natural rubber reinforced with nanoâ€alumina. Polymers for Advanced Technologies, 2011, 22, 2001-2008.	1.6	10
87	Mechanical and Swelling Behaviors of End-Linked PDMS Rubber and Randomly Cross-Linked Polyisoprene. Macromolecules, 2013, 46, 2015-2022.	2.2	10
88	Study on the morphology, rheology and surface of dynamically vulcanized chlorinated butyl rubber/polyethylacrylate extrudates: effect of extrusion temperature and times. Journal of Materials Science, 2007, 42, 4494-4501.	1.7	9
89	Intermediate state and weak intermolecular interactions of Î±-trans-1,4-Polyisoprene during the gradual cooling crystallization process investigated by In situ FTIR and two-dimensional infrared correlation spectroscopy. Macromolecular Research, 2013, 21, 493-501.	1.0	8
90	Anomalous melting behavior of cyclohexane and cyclooctane in poly(dimethyl siloxane) precursors and model networks. Journal of Polymer Science, Part B: Polymer Physics, 2008, 46, 2779-2791.	2.4	7

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91	Improved mechanical properties and special reinforcement mechanism of natural rubber reinforced by <i>in situ</i> polymerization of zinc dimethacrylate. Journal of Applied Polymer Science, 2010, 116, 920-928.	1.3	7
92	Mechanically robust, biocompatible, and durable PHEMA-based hydrogels enabled by the synergic effect of strong intermolecular interaction and suppressed phase separation. Polymer, 2022, 254, 125083.	1.8	7
93	Homogenization of natural rubber network induced by nanoclay. Journal of Applied Polymer Science, 2014, 131, .	1.3	6
94	One-step fabrication of silica colloidosomes with in situ drug encapsulation. RSC Advances, 2016, 6, 112292-112299.	1.7	6
95	Thermoelectric performance of conducting aerogels based on carbon nanotube/silver nanocomposites with ultralow thermal conductivity. RSC Advances, 2016, 6, 109878-109884.	1.7	6
96	Mechanically robust smart hydrogels enabled by an organic-inorganic hybridized crosslinker. Polymer, 2021, 214, 123236.	1.8	6
97	Exploring AIE luminogens as stickers to construct self-healing ionomers and as probes to detect the microscopic healing dynamics. Journal of Materials Chemistry A, 2021, 9, 22943-22951.	5.2	6
98	Robust Antiwater and Anti-oil-fouling Double-Sided Tape Enabled by SiO₂ Reinforcement and a Liquefied Surface. ACS Applied Materials & Interfaces, 2021, 13, 43404-43413.	4.0	6
99	Rheological Properties of Template Polymerization Polyacrylamide Aqueous Solutions. Journal of Macromolecular Science - Physics, 2011, 50, 2203-2213.	0.4	5
100	Soft Defect-Tolerant Material Inspired by American Lobsters. ACS Applied Materials & Interfaces, 2020, 12, 26509-26514.	4.0	5
101	High-Performance Crack-Resistant Elastomer with Tunable â€œJ-Shapedâ€•Stressâ€“Strain Behavior Inspired by the Brown Pelican. ACS Applied Materials & Interfaces, 2022, 14, 22489-22496.	4.0	5
102	Self-healing elastomers. , 2022, , 271-304.		5
103	Observing Nucleation Transition in Stretched Natural Rubber through Self-Seeding. Journal of Physical Chemistry B, 2015, 119, 11887-11892.	1.2	4
104	Dynamic Fatigue Behavior of Natural Rubber Reinforced with Nanoclay and Carbon Black. Journal of Macromolecular Science - Physics, 2011, 50, 1646-1657.	0.4	3
105	Interfacial crystallization of lowâ€•crystallinity elastomer incorporated by multiâ€•walled carbon nanotubes: Mechanical reinforcement, structural evolution and enhanced thermal stability. Journal of Applied Polymer Science, 2015, 132, .	1.3	3
106	Preparation of High-Performance Composite Hydrogel Reinforced by Hydrophilic Modified Waste Rubber Powder. Molecules, 2021, 26, 4788.	1.7	3
107	A novel network construction method based on degenerative chain transfer effect to toughen hydrogels. Polymer, 2021, 231, 124147.	1.8	3
108	Tough and Resilient Hydrogels Enabled by a Multifunctional Initiating and Cross-Linking Agent. Gels, 2021, 7, 177.	2.1	3

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109	Influence of Pretreatment Factors on Two-dimensional Correlation Dynamic Mechanical Spectroscopy Features. Physics Procedia, 2013, 48, 132-139.	1.2	2
110	Structural evolution of OBC/carbon nanotube bundle nanocomposites under uniaxial deformation. RSC Advances, 2015, 5, 32909-32919.	1.7	2
111	Selfâ€Healing Materials: Tough Selfâ€Healing Elastomers by Molecular Enforced Integration of Covalent and Reversible Networks (Adv. Mater. 38/2017). Advanced Materials, 2017, 29, .	11.1	2
112	Atomic Oxygen Resistance Vitrimers with High Strength, Recyclability, and Thermal Stability. ACS Applied Polymer Materials, 2022, 4, 5152-5160.	2.0	1
113	Durable Coating with Modified Graphene Oxide for Aircraft Structural CIC Application. Journal of Materials Engineering and Performance, 0, , 1.	1.2	0
114	Mechanically Robust Dual-Crosslinking Elastomer Enabled by a Facile Self-Crosslinking Approach. Materials, 2022, 15, 3983.	1.3	0