Ruoyu Zhang

List of Publications by Year
in descending order

75 papers	3,160 citations	117625 34 h-index	161849 54 g-index
75 all docs	75 docs citations	75 times ranked	2761 citing authors

#	Article	IF	Citations
1	Waterproof, Highly Tough, and Fast Self-Healing Polyurethane for Durable Electronic Skin. ACS Applied Materials & Interfaces, 2020, 12, 11072-11083.	8.0	149
2	Synthesis and properties of full bio-based thermosetting resins from rosin acid and soybean oil: the role of rosin acid derivatives. Green Chemistry, 2013, 15, 1300.	9.0	139
3	Synthesis of graphene from biomass: A green chemistry approach. Materials Letters, 2015, 161, 476-479.	2.6	137
4	Comprehensive review on plant fiber-reinforced polymeric biocomposites. Journal of Materials Science, 2021, 56, 7231-7264.	3.7	122
5	A Perspective on PEF Synthesis, Properties, and End-Life. Frontiers in Chemistry, 2020, 8, 585.	3.6	110
6	The properties of poly(lactic acid)/starch blends with a functionalized plant oil: Tung oil anhydride. Carbohydrate Polymers, 2013, 95, 77-84.	10.2	105
7	Graphene synthesis: a Review. Materials Science-Poland, 2015, 33, 566-578.	1.0	105
8	A Biologically Muscleâ€Inspired Polyurethane with Superâ€Tough, Thermal Reparable and Selfâ€Healing Capabilities for Stretchable Electronics. Advanced Functional Materials, 2021, 31, 2009869.	14.9	104
9	A Multiscale Investigation on the Mechanism of Shape Recovery for IPDI to PPDI Hard Segment Substitution in Polyurethane. Macromolecules, 2016, 49, 5931-5944.	4.8	92
10	Highly recoverable rosin-based shape memory polyurethanes. Journal of Materials Chemistry A, 2013, 1, 3263.	10.3	87
11	Isosorbide dioctoate as a â€œgreenâ€•plasticizer for poly(lactic acid). Materials and Design, 2016, 91, 262-268.	7.0	80
12	Research progress in the heat resistance, toughening and filling modification of PLA. Science China Chemistry, 2016, 59, 1355-1368.	8.2	79
13	Designing bio-based plasticizers: Effect of alkyl chain length on plasticization properties of isosorbide diesters in PVC blends. Materials and Design, 2017, 126, 29-36.	7.0	77
14	A mild method to prepare high molecular weight poly(butylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 227 Td (furandicarboxylate-<i>co< mechanical, and barrier properties and biodegradability. Green Chemistry, 2019, 21, 3013-3022.	9.0	76
15	Fully bio-based poly(propylene succinate-co-propylene furandicarboxylate) copolyesters with proper mechanical, degradation and barrier properties for green packaging applications. European Polymer Journal, 2018, 102, 101-110.	5.4	72
16	Surface hydrophobic modification of starch with bio-based epoxy resins to fabricate high-performance polylactide composite materials. Composites Science and Technology, 2014, 94, 16-22.	7.8	68
17	Bio-based shape memory polyurethanes (Bio-SMPUs) with short side chains in the soft segment. Journal of Materials Chemistry A, 2014, 2, 11490.	10.3	65
18	Tensile Property Balanced and Gas Barrier Improved Poly(lactic acid) by Blending with Biobased Poly(butylene 2,5-furan dicarboxylate). ACS Sustainable Chemistry and Engineering, 2017, 5, 9244-9253.	6.7	65

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19	Phase Separation Mechanism of Polybutadiene/Polyisoprene Blends under Oscillatory Shear Flow. Macromolecules, 2008, 41, 6818-6829.	4.8	59
20	A polyurethane integrating self-healing, anti-aging and controlled degradation for durable and eco-friendly E-skin. Chemical Engineering Journal, 2021, 410, 128363.	12.7	59
21	Modification of Poly(butylene 2,5-furandicarboxylate) with Lactic Acid for Biodegradable Copolyesters with Good Mechanical and Barrier Properties. Industrial & Engineering Chemistry Research, 2018, 57, 11020-11030.	3.7	58
22	Bio-based poly(butylene 2,5-furandicarboxylate)-b-poly(ethylene glycol) copolymers with adjustable degradation rate and mechanical properties: Synthesis and characterization. European Polymer Journal, 2018, 106, 42-52.	5.4	57
23	Asynchronous fracture of hierarchical microstructures in hard domain of thermoplastic polyurethane elastomer: Effect of chain extender. Polymer, 2018, 138, 242-254.	3.8	56
24	Synthesis and Structureâ€"Property Relationship of Biobased Biodegradable Poly(butylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 547 Tc 7488-7498.	6.7	52
25	Reexamination of the microphase separation in MDI and PTMG based polyurethane: Fast and continuous association/dissociation processes of hydrogen bonding. Polymer, 2019, 185, 121943.	3.8	52
26	A Selfâ€Healing and Ionic Liquid Affiliative Polyurethane toward a Piezo 2 Protein Inspired Ionic Skin. Advanced Functional Materials, 2022, 32, 2106341.	14.9	48
27	Effect of shear flow on multi-component polymer mixtures. Polymer, 2006, 47, 3271-3286.	3.8	45
28	Improvement in toughness of polylactide by melt blending with bio-based poly(ester)urethane. Chinese Journal of Polymer Science (English Edition), 2014, 32, 1099-1110.	3.8	44
29	Experimental and Theoretical Study on Glycolic Acid Provided Fast Bio/Seawater-Degradable Poly(Butylene Succinate-<i>co</i>-Glycolate). ACS Sustainable Chemistry and Engineering, 2021, 9, 3850-3859.	6.7	42
30	Design and structural study of a triple-shape memory PCL/PVC blend. Polymer, 2016, 104, 115-122.	3.8	40
31	Toward Biobased, Biodegradable, and Smart Barrier Packaging Material: Modification of Poly(Neopentyl Glycol 2,5-Furandicarboxylate) with Succinic Acid. ACS Sustainable Chemistry and Engineering, 2019, 7, 4255-4265.	6.7	37
32	Effect of Liquidâ˘"Liquid Phase Separation on the Lamellar Crystal Morphology in PEH/PEB Blend. Macromolecules, 2006, 39, 9285-9290.	4.8	36
33	Origin of highly recoverable shape memory polyurethanes (SMPUs) with non-planar ring structures: a single molecule force spectroscopy investigation. Journal of Materials Chemistry A, 2014, 2, 20010-20016.	10.3	36
34	Soft segment free thermoplastic polyester elastomers with high performance. Journal of Materials Chemistry A, 2015, 3, 13637-13641.	10.3	36
35	Biodegradable Elastomer from 2,5-Furandicarboxylic Acid and Îµ-Caprolactone: Effect of Crystallization on Elasticity. ACS Sustainable Chemistry and Engineering, 2019, 7, 17778-17788.	6.7	34
36	Preparation of Biobased Monofunctional Compatibilizer from Cardanol To Fabricate Polylactide/Starch Blends with Superior Tensile Properties. Industrial & Engineering Chemistry Research, 2014, 53, 10653-10659.	3.7	32

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37	Free radical competitions in polylactide/bio-based thermoplastic polyurethane/ free radical initiator ternary blends and their final properties. Polymer, 2015, 64, 69-75.	3.8	32
38	Diisocyanate free and melt polycondensation preparation of bio-based unsaturated poly(ester-urethane)s and their properties as UV curable coating materials. RSC Advances, 2014, 4, 49471-49477.	3.6	30
39	Toughening polylactide by direct blending of cellulose nanocrystals and epoxidized soybean oil. Journal of Applied Polymer Science, 2019, 136, 48221.	2.6	30
40	Sustainable and rapidly degradable poly(butylene carbonate-<i>co</i>-cyclohexanedicarboxylate): influence of composition on its crystallization, mechanical and barrier properties. Polymer Chemistry, 2019, 10, 1812-1822.	3.9	29
41	Nanoparticle Mobility within Permanently Cross-Linked Polymer Networks. Macromolecules, 2020, 53, 4172-4184.	4.8	29
42	Design of 2,5-furandicarboxylic based polyesters degraded in different environmental conditions: Comprehensive experimental and theoretical study. Journal of Hazardous Materials, 2022, 425, 127752.	12.4	28
43	Non-planar ring contained polyester modifying polylactide to pursue high toughness. Composites Science and Technology, 2016, 128, 41-48.	7.8	27
44	Epoxy resins toughened with <i>in situ</i> azideâ€“alkyne polymerized polysulfones. Journal of Applied Polymer Science, 2018, 135, 45790.	2.6	26
45	Formation of crystal-like structure and effective hard domain in a thermoplastic polyurethane. Polymer, 2020, 210, 123012.	3.8	26
46	A toughened PLA/Nanosilica composite obtained in the presence of epoxidized soybean oil. Journal of Applied Polymer Science, 2015, 132, .	2.6	25
47	Liquidâ€“Liquid Phase Separation and Crystallization in Thin Films of a Polyolefin Blend. Macromolecules, 2008, 41, 2311-2314.	4.8	21
48	Initiating Highly Effective Hydrolysis of Regenerated Cellulose by Controlling Transition of Crystal Form with Sulfolane under Microwave Radiation. ACS Sustainable Chemistry and Engineering, 2016, 4, 1507-1511.	6.7	21
49	An anti-stress relaxation, anti-fatigue, mildew proof and self-healing poly(thiourethane-urethane) for durably stretchable electronics. Chemical Engineering Journal, 2021, 420, 127691.	12.7	21
50	Retroreflection in binary bio-based PLA/PBF blends. Polymer, 2017, 125, 138-143.	3.8	20
51	Enhanced degradation and gas barrier of PBAT through composition design of aliphatic units. Polymer Degradation and Stability, 2022, 195, 109795.	5.8	20
52	Design of High-Barrier and Environmentally Degradable FDCA-Based Copolyesters: Experimental and Theoretical Investigation. ACS Sustainable Chemistry and Engineering, 2021, 9, 13021-13032.	6.7	19
53	Nucleation/Growth in the Metastable and Unstable Phase Separation Regions under Oscillatory Shear Flow for an Off-critical Polymer Blend. Macromolecules, 2009, 42, 2873-2876.	4.8	18
54	Toughening Polylactic Acid by a Biobased Poly(Butylene 2,5-Furandicarboxylate)-<i>b</i>-Poly(Ethylene) Tj ETQq0 0 0 rgBT /Overlock 10 Biomacromolecules, 2021, 22, 374-385.	5.4	17

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55	Rheological and optical investigation of the gelation with and without phase separation in PAN/DMSO/H2O ternary blends. Polymer, 2016, 84, 243-253.	3.8	15
56	A High Performance Copolyester with â€œLockedâ€•Biodegradability: Solid Stability and Controlled Degradation Enabled by Acid-Labile Acetal. ACS Sustainable Chemistry and Engineering, 2021, 9, 2280-2290.	6.7	15
57	Acid-triggered, degradable and high strength-toughness copolyesters: Comprehensive experimental and theoretical study. Journal of Hazardous Materials, 2022, 430, 128392.	12.4	15
58	Rheological manifestation of the second self-similar structure in gelation process of PAN/DMSO/H2O system. Polymer, 2015, 73, 149-155.	3.8	14
59	Nucleation and crystallization of poly(propylene 2,5-furan dicarboxylate) by direct blending of microcrystalline cellulose: improved tensile and barrier properties. Cellulose, 2020, 27, 9423-9436.	4.9	13
60	Water plasticization accelerates the underwater self-healing of hydrophobic polyurethanes. Polymer, 2022, 250, 124863.	3.8	12
61	The Consequence of Epoxidized Soybean Oil in the Toughening of Polylactide and Micro-Fibrillated Cellulose Blend. Polymer Science - Series A, 2019, 61, 832-846.	1.0	11
62	Waste Cellulose Fibers Reinforced Polylactide Toughened by Direct Blending of Epoxidized Soybean Oil. Fibers and Polymers, 2020, 21, 2949-2961.	2.1	11
63	Fully Bio-based Micro-cellulose Incorporated Poly(butylene 2,5-furandicarboxylate) Transparent Composites: Preparation and Characterization. Fibers and Polymers, 2020, 21, 1550-1559.	2.1	10
64	Enhanced seawater degradation through copolymerization with diglycolic acid: Synthesis, microstructure, degradation mechanism and modification for antibacterial packaging. Chemical Engineering Journal, 2022, 447, 137535.	12.7	10
65	Synthesis and shape memory property of segmented poly(ester urethane) with poly(butylene) Tj ETQq1 1 0.784314 rgBT /Overlock 10	3.6	7
66	Bio-based poly(butylene furandicarboxylate)-b-poly(ethylene glycol) copolymers: The effect of poly(ethylene glycol) molecular weight on thermal properties and hydrolysis degradation behavior. Advanced Industrial and Engineering Polymer Research, 2019, 2, 167-177.	4.7	6
67	Effect of aliphatic diacyl adipic dihydrazides on the crystallization of poly(lactic acid). Journal of Applied Polymer Science, 2015, 132, .	2.6	5
68	The interplay between gelation and phase separation in PAN/DMSO/H 2 O blends and the resulted critical gels. European Polymer Journal, 2017, 92, 40-50.	5.4	5
69	Thickness Dependence of Liquidâ^ˆ’Liquid Phase Separation in Thin Films of a Polyolefin Blend. Macromolecules, 2009, 42, 4349-4351.	4.8	4
70	Low-temperature activable, carbon dioxide based, highly adhesive and degradable oligo-urethane and its potential application as an auto-detachable dressing. Materials Chemistry Frontiers, 2022, 6, 1658-1671.	5.9	4
71	Synthesis of Multifunctionalized Graftâ€Type Polyolefinâ€Based Elastomers with a High Utility Temperature. Macromolecular Chemistry and Physics, 2017, 218, 1700298.	2.2	2
72	Synthesis of poly[2-(3-butenyl)-2-oxazoline] with abundant carboxylic acid functional groups as a fiber-based solâ€“gel reaction supporter for catalytic applications. Journal of Industrial and Engineering Chemistry, 2019, 80, 112-121.	5.8	2

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73	A Convenient Dual-Side Anionic Initiator Based on 2,6-Luditine/s-Butyl Lithium. Macromolecular Research, 2019, 27, 601-605.	2.4	2
74	An antifatigue and self-healable ionic polyurethane/ionic liquid composite as the channel layer for a low energy cost synaptic transistor. European Polymer Journal, 2022, 174, 111292.	5.4	2
75	Poly(<scp>l</scp>-lactic acid) Microdomain as a Nanopolarization Rotator in a Flexible, Elastic, and Transparent Polyurethane. ACS Applied Polymer Materials, 2020, 2, 3993-4003.	4.4	1