John M Torkelson

List of Publications by Year
in descending order

208 papers	13,862 citations	20036 63 h-index	28425 109 g-index
211 all docs	211 docs citations	211 times ranked	10882 citing authors

#	Article	IF	Citations
1	The distribution of glass-transition temperatures in nanoscopically confined glass formers. Nature Materials, 2003, 2, 695-700.	13.3	1,072
2	Structural Relaxation of Polymer Glasses at Surfaces, Interfaces, and In Between. Science, 2005, 309, 456-459.	6.0	659
3	Model polymer nanocomposites provide an understanding of confinement effects in real nanocomposites. Nature Materials, 2007, 6, 278-282.	13.3	618
4	Spin coating of thin and ultrathin polymer films. Polymer Engineering and Science, 1998, 38, 2039-2045.	1.5	425
5	Crumpled Graphene Nanosheets as Highly Effective Barrier Property Enhancers. Advanced Materials, 2010, 22, 4759-4763.	11.1	420
6	Polymer-nanoparticle interfacial interactions in polymer nanocomposites: Confinement effects on glass transition temperature and suppression of physical aging. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 2935-2943.	2.4	368
7	Impacts of Polystyrene Molecular Weight and Modification to the Repeat Unit Structure on the Glass Transitionâ˘’Nanoconfinement Effect and the Cooperativity Length Scale. Macromolecules, 2005, 38, 1767-1778.	2.2	292
8	Polymerâ˘’Graphite Nanocomposites:â€‰ Effective Dispersion and Major Property Enhancement via Solid-State Shear Pulverization. Macromolecules, 2008, 41, 1905-1908.	2.2	273
9	Vitrimers Designed Both To Strongly Suppress Creep and To Recover Original Cross-Link Density after Reprocessing: Quantitative Theory and Experiments. Macromolecules, 2018, 51, 5537-5546.	2.2	218
10	Eliminating the Enhanced Mobility at the Free Surface of Polystyrene:Â Fluorescence Studies of the Glass Transition Temperature in Thin Bilayer Films of Immiscible Polymers. Macromolecules, 2007, 40, 2568-2574.	2.2	201
11	Uniquely Broad Glass Transition Temperatures of Gradient Copolymers Relative to Random and Block Copolymers Containing Repulsive Comonomers. Macromolecules, 2006, 39, 6152-6160.	2.2	173
12	Rotational reorientation dynamics of disperse red 1 in polystyrene: Î±â€‰â€•relaxation dynamics probed by second harmonic generation and dielectric relaxation. Journal of Chemical Physics, 1994, 100, 6046-6054.	1.2	159
13	Reprocessable polyhydroxyurethane networks exhibiting full property recovery and concurrent associative and dissociative dynamic chemistry via transcarbamoylation and reversible cyclic carbonate aminolysis. Polymer Chemistry, 2017, 8, 6349-6355.	1.9	159
14	Reprocessable Polymer Networks via Thiourethane Dynamic Chemistry: Recovery of Cross-link Density after Recycling and Proof-of-Principle Solvolysis Leading to Monomer Recovery. Macromolecules, 2019, 52, 8207-8216.	2.2	135
15	Sensing the glass transition in thin and ultrathin polymer films via fluorescence probes and labels. Journal of Polymer Science, Part B: Polymer Physics, 2002, 40, 2745-2758.	2.4	133
16	Dramatic Reduction of the Effect of Nanoconfinement on the Glass Transition of Polymer Films via Addition of Small-Molecule Diluent. Physical Review Letters, 2004, 92, 095702.	2.9	130
17	Dispersion and Major Property Enhancements in Polymer/Multiwall Carbon Nanotube Nanocomposites via Solid-State Shear Pulverization Followed by Melt Mixing. Macromolecules, 2008, 41, 5974-5977.	2.2	128
18	Fragility is a Key Parameter in Determining the Magnitude of <i>T</i>_g-Confinement Effects in Polymer Films. Macromolecules, 2013, 46, 6091-6103.	2.2	127

#	Article	IF	Citations
19	Biobased Reprocessable Polyhydroxyurethane Networks: Full Recovery of Crosslink Density with Three Concurrent Dynamic Chemistries. ACS Sustainable Chemistry and Engineering, 2019, 7, 10025-10034.	3.2	126
20	Gradient copolymers with broad glass transition temperature regions: Design of purely interphase compositions for damping applications. Journal of Polymer Science, Part B: Polymer Physics, 2008, 46, 48-58.	2.4	120
21	Physical Aging of Ultrathin Polymer Films above and below the Bulk Glass Transition Temperature:â€‰ Effects of Attractive vs Neutral Polymerâ^'Substrate Interactions Measured by Fluorescence. Macromolecules, 2005, 38, 654-657.	2.2	117
22	Photocurable bioresorbable adhesives as functional interfaces between flexible bioelectronic devices and soft biological tissues. Nature Materials, 2021, 20, 1559-1570.	13.3	114
23	Translation-Rotation Paradox for Diffusion in Glass-Forming Polymers: The Role of the Temperature Dependence of the Relaxation Time Distribution. Physical Review Letters, 1997, 79, 103-106.	2.9	113
24	Polymer Blend Compatibilization by Gradient Copolymer Addition during Melt Processing:Â Stabilization of Dispersed Phase to Static Coarsening. Macromolecules, 2005, 38, 1037-1040.	2.2	111
25	Influence of solvent and molecular weight on thickness and surface topography of spin-coated polymer films. Polymer Engineering and Science, 1990, 30, 644-653.	1.5	108
26	Ultrathin Polymer Films near the Glass Transition:Â Effect on the Distribution of Î±-Relaxation Times As Measured by Second Harmonic Generation. Macromolecules, 1997, 30, 667-669.	2.2	108
27	Effects of Nanoscale Confinement and Interfaces on the Glass Transition Temperatures of a Series of Poly(n-methacrylate) Films. Australian Journal of Chemistry, 2007, 60, 765.	0.5	108
28	Distribution of Glass Transition Temperatures in Free-Standing, Nanoconfined Polystyrene Films: A Test of de Gennesâ€™ Sliding Motion Mechanism. Macromolecules, 2011, 44, 4546-4553.	2.2	106
29	Selectively Probing the Glass Transition Temperature in Multilayer Polymer Films:Â Equivalence of Block Copolymers and Multilayer Films of Different Homopolymers. Macromolecules, 2007, 40, 3328-3336.	2.2	105
30	Coarsening Effects on Microstructure Formation in Isopycnic Polymer Solutions and Membranes Produced via Thermally Induced Phase Separation. Macromolecules, 1994, 27, 6389-6397.	2.2	104
31	Reprocessable Polyhydroxyurethane Network Composites: Effect of Filler Surface Functionality on Cross-link Density Recovery and Stress Relaxation. ACS Applied Materials & Interfaces, 2019, 11, 2398-2407.	4.0	103
32	Glass transition and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Î±</mml:mi></mml:mrow></mml:math>-relaxation dynamics of thin films of labeled polystyrene. Physical Review E, 2007, 75, 061806.	0.8	100
33	Recyclable Crosslinked Polymer Networks via Oneâ€Step Controlled Radical Polymerization. Advanced Materials, 2016, 28, 6746-6750.	11.1	99
34	Confinement, composition, and spin-coating effects on the glass transition and stress relaxation of thin films of polystyrene and styrene-containing random copolymers: Sensing by intrinsic fluorescence. Polymer, 2006, 47, 7747-7759.	1.8	98
35	Novel Strategy for Polymer Blend Compatibilization:Â Solid-State Shear Pulverization. Macromolecules, 2000, 33, 225-228.	2.2	97
36	Coarsening effects on the formation of microporous membranes produced via thermally induced phase separation of polystyrene-cyclohexanol solutions. Journal of Membrane Science, 1995, 98, 209-222.	4.1	94

#	Article	IF	Citations
37	Effect of nanoscale confinement on the glass transition temperature of freeâ€standing polymer films: Novel, selfâ€referencing fluorescence method. Journal of Polymer Science, Part B: Polymer Physics, 2008, 46, 2754-2764.	2.4	93
38	Glass Transition Breadths and Composition Profiles of Weakly, Moderately, and Strongly Segregating Gradient Copolymers: Experimental Results and Calculations from Self-Consistent Mean-Field Theory. Macromolecules, 2009, 42, 7863-7876.	2.2	93
39	A Critical Experimental Examination of the Gel Effect in Free Radical Polymerization:Â Do Entanglements Cause Autoacceleration?. Macromolecules, 1996, 29, 7477-7490.	2.2	92
40	Cellular structures of carbon nanotubes in a polymer matrix improve properties relative to composites with dispersed nanotubes. Polymer, 2008, 49, 1332-1337.	1.8	92
41	Polypropylene-graphite nanocomposites made by solid-state shear pulverization: Effects of significantly exfoliated, unmodified graphite content on physical, mechanical and electrical properties. Polymer, 2010, 51, 5525-5531.	1.8	91
42	Cellulose nanocrystal/polyolefin biocomposites prepared by solid-state shear pulverization: Superior dispersion leading to synergistic property enhancements. Polymer, 2015, 56, 464-475.	1.8	88
43	Novel thermoplastic polyhydroxyurethane elastomers as effective damping materials over broad temperature ranges. European Polymer Journal, 2016, 84, 770-783.	2.6	88
44	Physical aging effects on molecular-scale polymer relaxations monitored with mobility-sensitive fluorescent molecules. Macromolecules, 1993, 26, 5331-5335.	2.2	87
45	Nonisocyanate Thermoplastic Polyhydroxyurethane Elastomers via Cyclic Carbonate Aminolysis: Critical Role of Hydroxyl Groups in Controlling Nanophase Separation. ACS Macro Letters, 2016, 5, 424-429.	2.3	87
46	Synthesis and Glass Transition Behavior of High Molecular Weight Styrene/4-Acetoxystyene and Styrene/4-Hydroxystyrene Gradient Copolymers Made via Nitroxide-Mediated Controlled Radical Polymerization. Macromolecules, 2004, 37, 5586-5595.	2.2	86
47	Achievement of quasi-nanostructured polymer blends by solid-state shear pulverization and compatibilization by gradient copolymer addition. Polymer, 2006, 47, 6773-6781.	1.8	85
48	Small Molecule Probe Diffusion in Thin Polymer Films Near the Glass Transition:Â A Novel Approach Using Fluorescence Nonradiative Energy Transfer1. Macromolecules, 1996, 29, 3898-3908.	2.2	80
49	Non-Isocyanate Polyurethane Thermoplastic Elastomer: Amide-Based Chain Extender Yields Enhanced Nanophase Separation and Properties in Polyhydroxyurethane. Macromolecules, 2017, 50, 4425-4434.	2.2	80
50	Coupling of Probe Reorientation Dynamics and Rotor Motions to Polymer Relaxation As Sensed by Second Harmonic Generation and Fluorescence. Macromolecules, 1995, 28, 7683-7692.	2.2	78
51	Modeling Insight into the Diffusion-Limited Cause of the Gel Effect in Free Radical Polymerization. Macromolecules, 1999, 32, 411-422.	2.2	78
52	Synthesis and application of styrene/4-hydroxystyrene gradient copolymers made by controlled radical polymerization: Compatibilization of immiscible polymer blends via hydrogen-bonding effects. Polymer, 2006, 47, 5799-5809.	1.8	77
53	Small Molecule Probe Diffusion in Thin and Ultrathin Supported Polymer Films. Macromolecules, 1998, 31, 8817-8825.	2.2	76
54	Evidence for the molecular-scale origin of the suppression of physical ageing in confined polymer: fluorescence and dielectric spectroscopy studies of polymerâ€“silica nanocomposites. Journal of Physics Condensed Matter, 2007, 19, 205120.	0.7	74

#	Article	IF	Citations
55	Microphase Separation and Shear Alignment of Gradient Copolymers: Melt Rheology and Small-Angle X-Ray Scattering Analysis. Macromolecules, 2008, 41, 5818-5829.	2.2	74
56	Stabilization of Dispersed Phase to Static Coarsening:Â Polymer Blend Compatibilization via Solid-State Shear Pulverization. Macromolecules, 2002, 35, 8672-8675.	2.2	73
57	Effect of Spatial Confinement on the Glass-Transition Temperature of Patterned Polymer Nanostructures. Nano Letters, 2007, 7, 713-718.	4.5	73
58	Breadth of glass transition temperature in styrene/acrylic acid block, random, and gradient copolymers: Unusual sequence distribution effects. Journal of Polymer Science, Part B: Polymer Physics, 2007, 45, 2842-2849.	2.4	70
59	Importance of superior dispersion versus filler surface modification inÂproducing robust polymer nanocomposites: The example of polypropylene/nanosilica hybrids. Polymer, 2015, 68, 147-157.	1.8	67
60	Major Impact of Cyclic Chain Topology on the <i>T</i>_g-Confinement Effect of Supported Thin Films of Polystyrene. Macromolecules, 2016, 49, 257-268.	2.2	67
61	Nanoscale Confinement and Temperature Effects on Associative Polymers in Thin Films:â€‰ Fluorescence Study of a Telechelic, Pyrene-Labeled Poly(dimethylsiloxane). Macromolecules, 2002, 35, 5943-5952.	2.2	66
62	Green composites of polypropylene and eggshell: Effective biofiller size reduction and dispersion by single-step processing with solid-state shear pulverization. Composites Science and Technology, 2014, 102, 152-160.	3.8	66
63	Miscibility and phase separation in poly(methyl methacrylate)/poly(vinyl chloride) blends: study of thermodynamics by thermal analysis. Macromolecules, 1992, 25, 721-728.	2.2	65
64	Polyethylene/starch blends with enhanced oxygen barrier and mechanical properties: Effect of granule morphology damage by solid-state shear pulverization. Polymer, 2007, 48, 1066-1074.	1.8	65
65	Well-mixed blends of HDPE and ultrahigh molecular weight polyethylene with major improvements in impact strength achieved via solid-state shear pulverization. Polymer, 2014, 55, 4948-4958.	1.8	64
66	Arresting Elevated-Temperature Creep and Achieving Full Cross-Link Density Recovery in Reprocessable Polymer Networks and Network Composites via Nitroxide-Mediated Dynamic Chemistry. Macromolecules, 2021, 54, 1452-1464.	2.2	64
67	Direct Use of Natural Antioxidant-rich Agro-wastes as Thermal Stabilizer for Polymer: Processing and Recycling. ACS Sustainable Chemistry and Engineering, 2016, 4, 881-889.	3.2	62
68	Synthesis and Functionalization of ROMP-Based Gradient Copolymers of 5-Substituted Norbornenes. Macromolecules, 2004, 37, 5504-5512.	2.2	59
69	Solid-State Shear Pulverization of Plastics: A Green Recycling Process. Polymer-Plastics Technology and Engineering, 1999, 38, 445-457.	1.9	58
70	Comparison of Critical Micelle Concentrations of Gradient Copolymer and Block Copolymer in Homopolymer:â€‰ Novel Characterization by Intrinsic Fluorescence. Macromolecules, 2007, 40, 5631-5633.	2.2	57
71	An Evaluation of Free Volume Approaches to Describe the Gel Effect in Free Radical Polymerization. Macromolecules, 1998, 31, 4537-4545.	2.2	55
72	Suppression of the <i>T</i>_g-Nanoconfinement Effect in Thin Poly(vinyl acetate) Films by Sorbed Water. Macromolecules, 2010, 43, 5158-5161.	2.2	54

#	Article	IF	Citations
73	Retardation of rotational reorientation dynamics in polymers near the glass transition: a novel study over eleven decades in time using second-order non-linear optics. Journal of Non-Crystalline Solids, 1994, 172-174, 286-296.	1.5	53
74	Phase-Separated Thiolâ€"Epoxyâ€"Acrylate Hybrid Polymer Networks with Controlled Cross-Link Density Synthesized by Simultaneous Thiolâ€"Acrylate and Thiolâ€"Epoxy Click Reactions. Macromolecules, 2016, 49, 4115-4123.	2.2	53
75	Streamlined ellipsometry procedure for characterizing physical aging rates of thin polymer films. Journal of Polymer Science, Part B: Polymer Physics, 2009, 47, 2509-2519.	2.4	52
76	Cooperative Catalysis of Cyclic Carbonate Ring Opening: Application Towards Nonâ€Isocyanate Polyurethane Materials. European Journal of Organic Chemistry, 2015, 2015, 2791-2795.	1.2	52
77	A Reconsideration of the Measurement of Polymer Interdiffusion by Fluorescence Nonradiative Energy Transfer. Macromolecules, 1994, 27, 4817-4824.	2.2	51
78	Polystyrene-Grafted Silica Nanoparticles: Investigating the Molecular Weight Dependence of Glass Transition and Fragility Behavior. Macromolecules, 2017, 50, 1589-1598.	2.2	51
79	Reprocessable covalent adaptable networks with excellent elevated-temperature creep resistance: facilitation by dynamic, dissociative bis(hindered amino) disulfide bonds. Polymer Chemistry, 2021, 12, 2760-2771.	1.9	51
80	Kinetics of multifunctional thiol-epoxy click reactions studied by differential scanning calorimetry: Effects of catalysis and functionality. Polymer, 2015, 81, 70-78.	1.8	50
81	Probe translational and rotational diffusion in polymers near Tg: roles of probe size, shape, and secondary bonding in deviations from Debyeâ€"Stokesâ€"Einstein scaling. Journal of Non-Crystalline Solids, 1998, 235-237, 48-56.	1.5	48
82	Compatibilized polymer blends with nanoscale or sub-micron dispersed phases achieved by hydrogen-bonding effects: Block copolymer vs blocky gradient copolymer addition. Polymer, 2008, 49, 2686-2697.	1.8	48
83	Tuning nanophase separation behavior in segmented polyhydroxyurethane via judicious choice of soft segment. Polymer, 2017, 110, 218-227.	1.8	48
84	Combined Effects of Carbonate and Soft-Segment Molecular Structures on the Nanophase Separation and Properties of Segmented Polyhydroxyurethane. Macromolecules, 2017, 50, 3193-3203.	2.2	47
85	Sub-micron dispersed-phase particle size in polymer blends: overcoming the Taylor limit via solid-state shear pulverization. Polymer, 2003, 44, 199-206.	1.8	46
86	Polyurethane/polyhydroxyurethane hybrid polymers and their applications as adhesive bonding agents. International Journal of Adhesion and Adhesives, 2016, 64, 1-8.	1.4	46
87	Modulus, Confinement, and Temperature Effects on Surface Capillary Wave Dynamics in Bilayer Polymer Films Near the Glass Transition. Physical Review Letters, 2012, 109, 038302.	2.9	45
88	Methacrylate-based polymer films useful in lithographic applications exhibit different glass transition temperature-confinement effects at high and low molecular weight. Polymer, 2014, 55, 1249-1258.	1.8	45
89	Comparison of polyolefin biocomposites prepared with waste cardboard, microcrystalline cellulose, and cellulose nanocrystals via solid-state shear pulverization. Polymer, 2015, 75, 78-87.	1.8	45
90	Dynamic Covalent Polyurethane Networks with Excellent Property and Cross-Link Density Recovery after Recycling and Potential for Monomer Recovery. ACS Applied Polymer Materials, 2020, 2, 2093-2101.	2.0	45

#	Article	IF	Citations
91	Fluorescence and absorbance of polystyrene in dilute and semidilute solutions. Macromolecules, 1983, 16, 326-330.	2.2	44
92	Photochromic and fluorescent probe studies in glassy polymer matrices. 4. Effects of physical aging on poly(methyl methacrylate) as sensed by a size distribution of photochromic probes. Macromolecules, 1992, 25, 729-734.	2.2	44
93	Photochromic and fluorescent probe studies in glassy polymer matrices. 5. Effects of physical aging on bisphenol A polycarbonate and poly(vinyl acetate) as sensed by a size distribution of photochromic probes. Macromolecules, 1992, 25, 4792-4796.	2.2	44
94	Mobility-sensitive fluorescence probes for quantitative monitoring of water sorption and diffusion in polymer coatings. Journal of Polymer Science, Part B: Polymer Physics, 1995, 33, 2343-2349.	2.4	44
95	Limitations in the Synthesis of High Molecular Weight Polymers via Nitroxide-Mediated Controlled Radical Polymerization:â€‰ Modeling Studies. Macromolecules, 2003, 36, 7812-7823.	2.2	44
96	Fragility-Confinement Effects: Apparent Universality as a Function of Scaled Thickness in Films of Freely Deposited, Linear Polymer and Its Absence in Densely Grafted Brushes. Macromolecules, 2016, 49, 1331-1343.	2.2	44
97	Polystyrene fluorescence: effects of molecular weight in various solvents. Macromolecules, 1981, 14, 1601-1603.	2.2	43
98	Molecular-scale asymmetry and memory behavior in poly(vinyl acetate) monitored with mobility-sensitive fluorescent molecules. Macromolecules, 1992, 25, 1705-1710.	2.2	43
99	In Situ Block Copolymer Formation during Solid-State Shear Pulverization: An Explanation for Blend Compatibilization via Interpolymer Radical Reactions. Macromolecules, 2002, 35, 9716-9722.	2.2	43
100	Residual stress relaxation and stiffness in spin-coated polymer films: Characterization by ellipsometry and fluorescence. Polymer, 2015, 76, 113-122.	1.8	43
101	Maleic anhydride functionalization of polypropylene with suppressed molecular weight reduction via solid-state shear pulverization. Polymer, 2013, 54, 4143-4154.	1.8	42
102	Substantial spatial heterogeneity and tunability of glass transition temperature observed with dense polymer brushes prepared by ARGET ATRP. Polymer, 2015, 64, 183-192.	1.8	42
103	Two-dimensional coarsening and phase separation in thin polymer solution films. Physical Review E, 1997, 55, 3191-3201.	0.8	41
104	Binary mixture pyrolysis of polypropylene and polystyrene: A modeling and experimental study. Journal of Analytical and Applied Pyrolysis, 2005, 73, 342-354.	2.6	41
105	Preparation and characterization of multiwalled carbon nanotube dispersions in polypropylene: Melt mixing versus solidâ€state shear pulverization. Journal of Polymer Science, Part B: Polymer Physics, 2009, 47, 1426-1436.	2.4	41
106	Covalent Adaptive Networks for Enhanced Adhesion: Exploiting Disulfide Dynamic Chemistry and Annealing during Application. ACS Applied Polymer Materials, 2020, 2, 4658-4665.	2.0	41
107	Effect of Gradient Sequencing on Copolymer Orderâ€“Disorder Transitions: Phase Behavior of Styrene/<i>n</i>-Butyl Acrylate Block and Gradient Copolymers. Macromolecules, 2011, 44, 6220-6226.	2.2	39
108	Processingâ€structureâ€property relationships in solidâ€state shear pulverization: Parametric study of specific energy. Polymer Engineering and Science, 2012, 52, 1555-1564.	1.5	39

#	Article	IF	Citations
109	Enhanced <i>T</i>_g-Confinement Effect in Cross-Linked Polystyrene Compared to Its Linear Precursor: Roles of Fragility and Chain Architecture. Macromolecules, 2016, 49, 5092-5103.	2.2	39
110	Reprocessable and Recyclable Chain-Growth Polymer Networks Based on Dynamic Hindered Urea Bonds. ACS Macro Letters, 2022, 11, 568-574.	2.3	39
111	Small molecule diffusion in a rubbery polymer nearTg: Effects of probe size, shape, and flexibility. Journal of Polymer Science, Part B: Polymer Physics, 1996, 34, 2987-2997.	2.4	38
112	Small-Molecule Probe Diffusion in Polymer Solutions:â€‰ Studies by Taylor Dispersion and Phosphorescence Quenching. Macromolecules, 1996, 29, 6193-6207.	2.2	37
113	Efficient mixing of polymer blends of extreme viscosity ratio: Elimination of phase inversion via solid-state shear pulverization. Polymer Engineering and Science, 2000, 40, 1447-1457.	1.5	37
114	Critical micelle concentrations of block and gradient copolymers in homopolymer: Effects of sequence distribution, composition, and molecular weight. Journal of Polymer Science, Part B: Polymer Physics, 2008, 46, 2672-2682.	2.4	37
115	Sustainable Green Hybrids of Polyolefins and Lignin Yield Major Improvements in Mechanical Properties When Prepared via Solid-State Shear Pulverization. ACS Sustainable Chemistry and Engineering, 2015, 3, 959-968.	3.2	37
116	Recyclable polymer networks containing hydroxyurethane dynamic cross-links: Tuning morphology, cross-link density, and associated properties with chain extenders. Polymer, 2019, 178, 121604.	1.8	37
117	Dramatic Tunability of the Glass Transition Temperature and Fragility of Low Molecular Weight Polystyrene by Initiator Fragments Located at Chain Ends. Macromolecules, 2016, 49, 2387-2398.	2.2	36
118	Reprocessable Polymer Networks Designed with Hydroxyurethane Dynamic Crossâ€links: Effect of Backbone Structure on Network Morphology, Phase Segregation, and Property Recovery. Macromolecular Chemistry and Physics, 2019, 220, 1900083.	1.1	36
119	Differences in enthalpy recovery of gradient and random copolymers of similar overall composition: styrene/4-methylstyrene copolymers made by nitroxide-mediated controlled radical polymerization. Polymer, 2004, 45, 4777-4786.	1.8	35
120	Novel, synergistic composites of polypropylene and rice husk ash: Sustainable resource hybrids prepared by solid-state shear pulverization. Polymer Composites, 2013, 34, 1211-1221.	2.3	34
121	Role of neighboring domains in determining the magnitude and direction of Tg-confinement effects in binary, immiscible polymer systems. Polymer, 2015, 80, 180-187.	1.8	34
122	Compatibilizing effects of block copolymer mixed with immiscible polymer blends by solid-state shear pulverization: stabilizing the dispersed phase to static coarsening. Polymer, 2005, 46, 4753-4761.	1.8	33
123	Suppression of the Fragility-Confinement Effect via Low Molecular Weight Cyclic or Ring Polymer Topology. Macromolecules, 2017, 50, 1147-1154.	2.2	33
124	Recyclable Polymethacrylate Networks Containing Dynamic Dialkylamino Disulfide Linkages and Exhibiting Full Property Recovery. Macromolecules, 2020, 53, 8367-8373.	2.2	33
125	Stiffness of thin, supported polystyrene films: Free-surface, substrate, and confinement effects characterized via self-referencing fluorescence. Polymer, 2016, 99, 417-426.	1.8	32
126	Styrene/4-hydroxystyrene random, block and gradient copolymers modified with an organic dye: Synthesis by controlled radical polymerization and characterization of electrorheological properties. Polymer, 2006, 47, 3287-3291.	1.8	31

#	Article	IF	Citations
127	Behavior of Gradient Copolymers at Liquid/Liquid Interfaces. Langmuir, 2010, 26, 3261-3267.	1.6	31
128	Dielectric Relaxation Spectroscopy of Gradient Copolymers and Block Copolymers: Comparison of Breadths in Relaxation Time for Systems with Increasing Interphase. Macromolecules, 2010, 43, 5740-5748.	2.2	31
129	Segmented Thermoplastic Polymers Synthesized by Thiolâ€“Ene Click Chemistry: Examples of Thiolâ€“Norbornene and Thiolâ€“Maleimide Click Reactions. Macromolecules, 2018, 51, 3620-3631.	2.2	31
130	Translational and Rotational Diffusion of Probe Molecules in Polymer Films near Tg:â€‰ Effect of Hydrogen Bonding. Macromolecules, 1999, 32, 8052-8058.	2.2	30
131	Interpolymer radical coupling reactions during sonication of polymer solutions. Polymer, 2003, 44, 2823-2828.	1.8	30
132	Green polypropylene/waste paper composites with superior modulus and crystallization behavior: Optimizing specific energy in solid-state shear pulverization for filler size reduction and dispersion. Composites Part A: Applied Science and Manufacturing, 2016, 83, 47-55.	3.8	30
133	Tuning the properties of segmented polyhydroxyurethanes via chain extender structure. Journal of Applied Polymer Science, 2017, 134, 44942.	1.3	30
134	Stiffness Gradients in Glassy Polymer Model Nanocomposites: Comparisons of Quantitative Characterization by Fluorescence Spectroscopy and Atomic Force Microscopy. Macromolecules, 2017, 50, 5447-5458.	2.2	30
135	Influence of cure via network structure on mechanical properties of a free-radical polymerizing thermoset. Polymer, 2002, 43, 2747-2760.	1.8	29
136	Phase separation of oligomeric polystyrene-polybutadiene blends as studied by excimer fluorescence. Macromolecules, 1988, 21, 1026-1033.	2.2	27
137	Fluorescence energy transfer studies of styrene-isoprene diblock copolymer solutions. Macromolecules, 1990, 23, 1700-1710.	2.2	27
138	2D Coarsening in Phase-Separated Polymer Solutions: Dependence on Distance from Criticality. Physical Review Letters, 1995, 75, 3134-3137.	2.9	27
139	Gel effect in free radical polymerization: Model discrimination of its cause. AIChE Journal, 1998, 44, 1226-1231.	1.8	27
140	Glass Transition Temperature of a Component near Infinite Dilution in Binary Polymer Blends: Determination via Fluorescence Spectroscopy. Macromolecules, 2011, 44, 6645-6648.	2.2	27
141	Tg and Tg breadth of poly(2,6-dimethyl-1,4-phenylene oxide)/polystyrene miscible polymer blends characterized by differential scanning calorimetry, ellipsometry, and fluorescence spectroscopy. Polymer, 2015, 65, 233-242.	1.8	27
142	Self-referencing fluorescence sensor for monitoring conversion of nonisothermal polymerization and nanoscale mixing of resin components. Polymer, 2003, 44, 423-432.	1.8	26
143	Limitations in the Synthesis of High Molecular Weight Polymers via Nitroxide-Mediated Controlled Radical Polymerization:Â Experimental Studies. Macromolecules, 2003, 36, 5792-5797.	2.2	26
144	Poly(methyl methacrylate) nanotubes in AAO templates: Designing nanotube thickness and characterizing the T-confinement effect by DSC. Polymer, 2016, 82, 327-336.	1.8	26

#	Article	IF	Citations
145	Fluorescence energy-transfer studies of bulk styrene-isoprene diblock copolymers and their blends with polyisoprene: applications to microphase separation. Macromolecules, 1990, 23, 1711-1717.	2.2	25
146	In situ monitoring of sorption and drying of polymer films and coatings: self-referencing, nearly temperature-independent fluorescence sensors. Polymer, 2004, 45, 2623-2632.	1.8	25
147	Reprocessable polyhydroxyurethane networks reinforced with reactive polyhedral oligomeric silsesquioxanes (POSS) and exhibiting excellent elevated temperature creep resistance. Polymer, 2022, 252, 124971.	1.8	25
148	Major Roles of Blend Partner Fragility and Dye Placement on Component Glass Transition Temperatures: Fluorescence Study of Near-Infinitely Dilute Species in Binary Blends. Macromolecules, 2012, 45, 8319-8327.	2.2	24
149	Determining multiple component glass transition temperatures in miscible polymer blends: Comparison of fluorescence spectroscopy and differential scanning calorimetry. Polymer, 2012, 53, 6118-6124.	1.8	24
150	Isolating the effect of polymer-grafted nanoparticle interactions with matrix polymer from dispersion on composite property enhancement: The example of polypropylene/halloysite nanocomposites. Polymer, 2019, 176, 38-50.	1.8	24
151	Molecular probe techniques for studying diffusion and relaxation in thin and ultrathin polymer films. Journal of Polymer Science, Part B: Polymer Physics, 1997, 35, 2795-2802.	2.4	23
152	Ester Functionalization of Polypropylene via Controlled Decomposition of Benzoyl Peroxide during Solid-State Shear Pulverization. Macromolecules, 2013, 46, 7834-7844.	2.2	23
153	Molecular Weight Dependence of the Glass Transition Temperature (<i>T</i>_g)-Confinement Effect in Well-Dispersed Poly(2-vinyl pyridine)â€“Silica Nanocomposites: Comparison of Interfacial Layer <i>T</i>_g and Matrix <i>T</i>_g. Macromolecules, 2020, 53, 8725-8736.	2.2	23
154	In situ monitoring of free-radical polymerization by fluorescence quenching of fluorene and reactive derivatives. Journal of Polymer Science, Part B: Polymer Physics, 1994, 32, 2625-2635.	2.4	22
155	Novel synthesis of branched polypropylene via solid-state shear pulverization. Polymer, 2015, 60, 77-87.	1.8	21
156	Imaging of phase segregation in gradient copolymers: Island and hole surface topography. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 189-197.	2.4	20
157	Determination of interpenetration of polystyrene in solution and film by energy-transfer techniques. Macromolecules, 1987, 20, 1860-1865.	2.2	19
158	Molecular weight dependence of the intrinsic size effect on <i>T</i>g in AAO template-supported polymer nanorods: A DSC study. Journal of Chemical Physics, 2017, 146, 203323.	1.2	19
159	Synthesis, characterization and photophysical properties of benzil-labelled polymers for studies of diffusion-limited interactions by phosphorescence quenching. Polymer, 1990, 31, 2402-2410.	1.8	18
160	Effect of chain length on rates of diffusion-limited small molecule-polymer and polymer-polymer reactions: Phosphorescence quenching studies. Journal of Polymer Science, Part B: Polymer Physics, 1996, 34, 2999-3008.	2.4	18
161	Simultaneous Determination of Critical Micelle Temperature and Micelle Core Glass Transition Temperature of Block Copolymerâ€“Solvent Systems via Pyrene-Label Fluorescence. Macromolecules, 2013, 46, 4131-4140.	2.2	18
162	Influence of initiator fragments as chain ends on the Tg-confinement effect and dewetting of thin films of ultralow molecular weight polymer. Polymer, 2015, 65, 105-114.	1.8	18

#	Article	IF	Citations
163	Functionalization of hydroxyl groups in segmented polyhydroxyurethane eliminates nanophase separation. Journal of Polymer Science Part A, 2017, 55, 3347-3351.	2.5	18
164	Large melting point depression of 2-3-nm length-scale nanocrystals formed by the self-assembly of an associative polymer: Telechelic, pyrene-labeled poly(dimethylsiloxane). Journal of Polymer Science, Part B: Polymer Physics, 2004, 42, 3470-3475.	2.4	17
165	Birefringence and second-order nonlinear optics as probes of polymer cooperative segmental mobility: Demonstration of Debye-type relaxation. Journal of Chemical Physics, 1999, 111, 2779-2788.	1.2	16
166	Crystallization and Enthalpy Relaxation of Physically Associating, End-Linked Polymer Networks: Telechelic Pyrene-Labeled Polydimethylsiloxane. Polymer Bulletin, 2004, 51, 411-418.	1.7	16
167	Dispersion and Property Enhancements in Polyolefin/Soy Flour Biocomposites Prepared via Melt Extrusion Followed by Solidâ€State Shear Pulverization. Macromolecular Materials and Engineering, 2015, 300, 772-784.	1.7	16
168	Tuning the Tg-confinement effect in thin polymer films via minute levels of residual surfactant which â€œcapâ€• the free surface. Polymer, 2016, 87, 226-235.	1.8	16
169	Hybrid thiol-acrylate-epoxy polymer networks: Comparison of one-pot synthesis with sequential reactions and shape memory properties. Polymer, 2016, 96, 198-204.	1.8	16
170	Tenfold increase in the photostability of an azobenzene guest in vapor-deposited glass mixtures. Journal of Chemical Physics, 2018, 149, 204503.	1.2	16
171	Correlations in polymer melts and solutions as investigated by fluorescence nonradiative energy transfer: a novel comparison of theory to experiment by fluorescence intensity decay measurements. Macromolecules, 1993, 26, 6789-6799.	2.2	15
172	Fluorescence of vinyl aromatic polyelectrolytes: effects of conformation, concentration, and molecular weight of sodium poly(styrene sulfonate). Macromolecules, 1986, 19, 2801-2806.	2.2	14
173	On the Proper Use of Concentration Profiles for Determining Polymer Diffusion Coefficients via Fluorescence Nonradiative Energy Transfer. Macromolecules, 1997, 30, 5560-5562.	2.2	14
174	Porod scattering study of coarsening in immiscible polymer blends. Journal of Polymer Science, Part B: Polymer Physics, 2005, 43, 3413-3420.	2.4	14
175	T g -confinement effects in strongly miscible blends of poly(2,6-dimethyl-1,4-phenylene oxide) and polystyrene: Roles of bulk fragility and chain segregation. Polymer, 2017, 118, 85-96.	1.8	14
176	Functional enzymeâ€"polymer complexes. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2119509119.	3.3	13
177	Use of Taylor dispersion for the measurement of probe diffusion in polymer solutions. AICHE Journal, 1996, 42, 1157-1163.	1.8	11
178	Bulk physical aging behavior of cross-linked polystyrene compared to its linear precursor: Effects of cross-linking and aging temperature. Polymer, 2017, 115, 197-203.	1.8	11
179	Diffusion-Controlled Polymerâ˘'Polymer Reactions in Bulk:Â Novel Strategy for Model Experiments and Reactive Compatibilization Using Polymers Synthesized via Controlled Radical Polymerization. Macromolecules, 2002, 35, 8261-8264.	2.2	10
180	Polystyrene-methylcyclohexane solutions undergoing phase separation: a study by fluorescence spectroscopy. Macromolecules, 1984, 17, 1505-1512.	2.2	9

#	Article	IF	Citations
181	Diffusion-Limited Photophysical Interactions as in situ Probes of Conversion in Free Radical Polymerization: Quantitative Analysis with Predictive Free-Volume Theory. Macromolecules, 1994, 27, 7217-7219.	2.2	9
182	Effects of process method and quiescent coarsening on dispersed-phase size distribution in polymer blends: comparison of solid-state shear pulverization with intensive batch melt mixing. Polymer Bulletin, 2015, 72, 693-711.	1.7	9
183	Enhanced glass transition temperature of low molecular weight poly(methyl methacrylate) by initiator fragments located at chain ends. Polymer, 2017, 122, 194-199.	1.8	9
184	Identification of Known and Novel Monomers for Poly(hydroxyurethanes) from Biobased Materials. Industrial & Engineering Chemistry Research, 2021, 60, 6814-6825.	1.8	9
185	Enhancement of Surface Wettability by Incorporating Polar Initiator Fragments at Chain Ends of Low-Molecular-Weight Polymers. ACS Applied Materials & Interfaces, 2017, 9, 12176-12181.	4.0	8
186	Rigid amorphous fraction and crystallinity in cold-crystallized syndiotactic polystyrene: Characterization by differential scanning calorimetry. Polymer, 2021, 230, 124044.	1.8	8
187	Remarkable glass transition breadths up to 120â€¯K exhibited by block-gradient copolymers and by gradient copolymers plasticized by oligomer. Polymer, 2018, 151, 145-153.	1.8	7
188	Impact of bottlebrush chain architecture on <i>T</i>_gâ€confinement and <scp>fragilityâ€confinement</scp> effects enabled by thermoâ€cleavable bottlebrush polymers synthesized by radical coupling and atom transfer radical polymerization. Journal of Polymer Science, 2020, 58, 2887-2905.	2.0	7
189	Second Order Nonlinear Optics and Polymer Physics of Corona Poled, Doped Polymer Materials. Materials Research Society Symposia Proceedings, 1989, 173, 625.	0.1	6
190	Engineering Surface Hydrophilicity via Polymer Chain-End Segregation in Coatings Formed by Photopolymerization. ACS Applied Polymer Materials, 2019, 1, 3095-3102.	2.0	6
191	Determining order-to-disorder transitions in block copolymer thin films using a self-referencing fluorescent probe. Molecular Systems Design and Engineering, 2020, 5, 330-338.	1.7	6
192	Fluorescence nonradiative energy transfer in bulk polymer and miscible and phase-separated polymer blends: A quantitative analysis including correlation effects. Journal of Polymer Science, Part B: Polymer Physics, 1994, 32, 2667-2681.	2.4	5
193	On the importance of including intermolecular correlations in the measurement of polymer interdiffusion by fluorescence nonradiative energy transfer. Macromolecular Theory and Simulations, 1997, 6, 931-948.	0.6	5
194	Heterogeneous Charged Complexes of Random Copolymers for the Segregation of Organic Molecules. ACS Central Science, 2021, 7, 882-891.	5.3	5
195	The effects of blending small amounts of homopolystyrene on the mechanical properties of a low styrene content styrene-butadiene-styrene block copolymer. Polymer Engineering and Science, 1990, 30, 49-58.	1.5	4
196	A Combined Computational and Experimental Study of Copolymerization Propagation Kinetics for 1â€Ethylcyclopentyl methacrylate and Methyl methacrylate. Macromolecular Theory and Simulations, 2016, 25, 263-273.	0.6	4
197	Quantitative, Rational Predictions of the Long-Term Temporal Decay Properties of Second-Order Nonlinear Optical Polymers from the Analysis of Relaxation Dynamics. ACS Symposium Series, 1995, , 318-332.	0.5	3
198	Development of rigid amorphous fraction in coldâ€crystallized syndiotactic polystyrene films confined near the nanoscale: Novel analysis via ellipsometry. Journal of Polymer Science, 2022, 60, 1631-1642.	2.0	3

#	Article	IF	Citations
199	Title is missing!. Die Makromolekulare Chemie, 1990, 191, 2367-2375.	1.1	2
200	Thermal Effects on Dopant Orientation in Poled, Doped Polymers. ACS Symposium Series, 1991, , 294-302.	0.5	2
201	Monohydroxy-hydrazone-functionalized thermally crosslinked polymers for nonlinear optics. Journal of Applied Polymer Science, 2004, 92, 770-781.	1.3	2
202	A study of interpenetration using fluorescence quenching of chromophore-labelled polymers. Polymer, 1987, 28, 2257-2261.	1.8	1
203	The effects of blending small amounts of homopolystyrene on the mechanical properties of a low styrene content styrene-butadiene-styrene block copolymer-corrections. Polymer Engineering and Science, 1990, 30, 1180-1181.	1.5	1
204	Lateral diffusion of single poly(ethylene oxide) chains on the surfaces of glassy and molten polymer films. Journal of Chemical Physics, 2021, 154, 164902.	1.2	1
205	Molecular probe techniques for studying diffusion and relaxation in thin and ultrathin polymer films. , 1997, 35, 2795.		1
206	Introduction to material & energy balances, by G. V. Reklaitis(with contributions by Daniel R.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 462	1.8	0
207	Diffusional Dynamics Near the Glass Transition in Amorphous Polymer Thin Films. Materials Research Society Symposia Proceedings, 1995, 407, 221.	0.1	0
208	A Combined Computational and Experimental Study of Copolymerization Propagation Kinetics for 1-Ethylcyclopentyl methacrylate and Methyl methacrylate. Macromolecular Theory and Simulations, 2016, 25, 263-273.	0.6	0