

Connie B Roth

List of Publications by Year in descending order

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49
papers

2,347
citations

201674

27
h-index

223800

46
g-index

50
all docs

50
docs citations

50
times ranked

1575
citing authors

#	ARTICLE	IF	CITATIONS
1	Glass transition and chain mobility in thin polymer films. <i>Journal of Electroanalytical Chemistry</i> , 2005, 584, 13-22.	3.8	269
2	Eliminating the Enhanced Mobility at the Free Surface of Polystyrene: Fluorescence Studies of the Glass Transition Temperature in Thin Bilayer Films of Immiscible Polymers. <i>Macromolecules</i> , 2007, 40, 2568-2574.	4.8	201
3	Two Simultaneous Mechanisms Causing Glass Transition Temperature Reductions in High Molecular Weight Freestanding Polymer Films as Measured by Transmission Ellipsometry. <i>Physical Review Letters</i> , 2011, 107, 235701.	7.8	143
4	Physical Aging in Ultrathin Polystyrene Films: Evidence of a Gradient in Dynamics at the Free Surface and Its Connection to the Glass Transition Temperature Reductions. <i>Macromolecules</i> , 2010, 43, 8296-8303.	4.8	136
5	Confinement effects on glass transition temperature, transition breadth, and expansivity: Comparison of ellipsometry and fluorescence measurements on polystyrene films. <i>European Physical Journal E</i> , 2009, 30, 83-92.	1.6	133
6	Glass transition temperature of freely-standing films of atactic poly(methyl methacrylate). <i>European Physical Journal E</i> , 2003, 12, 103-107.	1.6	115
7	Selectively Probing the Glass Transition Temperature in Multilayer Polymer Films: Equivalence of Block Copolymers and Multilayer Films of Different Homopolymers. <i>Macromolecules</i> , 2007, 40, 3328-3336.	4.8	105
8	Molecular-weight dependence of the glass transition temperature of freely-standing poly(methyl methacrylate) films. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 1994, 32, 107-117.	1.6	94
9	Effect of nanoscale confinement on the glass transition temperature of free-standing polymer films: Novel, self-referencing fluorescence method. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2008, 46, 2754-2764.	2.1	93
10	Local glass transition temperature (T_g) of polystyrene next to different polymers: Hard vs. soft confinement. <i>Journal of Chemical Physics</i> , 2017, 146, 203307.	3.0	74
11	Hole formation and growth in freely standing polystyrene films. <i>Physical Review E</i> , 1999, 59, 2153-2156.	2.1	73
12	Communication: Experimentally determined profile of local glass transition temperature across a glassy-rubbery polymer interface with a T_g difference of 80 K. <i>Journal of Chemical Physics</i> , 2015, 143, 111101.	3.0	67
13	Physical Aging of Polymer Films Quenched and Measured Free-Standing via Ellipsometry: Controlling Stress Imparted by Thermal Expansion Mismatch between Film and Support. <i>Macromolecules</i> , 2013, 46, 9455-9463.	4.8	59
14	Comparison of Critical Micelle Concentrations of Gradient Copolymer and Block Copolymer in Homopolymer: Novel Characterization by Intrinsic Fluorescence. <i>Macromolecules</i> , 2007, 40, 5631-5633.	4.8	57
15	Suppression of the T_g -Nanoconfinement Effect in Thin Poly(vinyl acetate) Films by Sorbed Water. <i>Macromolecules</i> , 2010, 43, 5158-5161.	4.8	54
16	Streamlined ellipsometry procedure for characterizing physical aging rates of thin polymer films. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2009, 47, 2509-2519.	2.1	52
17	Above, below, and in-between the two glass transitions of ultrathin free-standing polystyrene films: Thermal expansion coefficient and physical aging. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2015, 53, 64-75.	2.1	41
18	Effect of Adjacent Rubbery Layers on the Physical Aging of Glassy Polymers. <i>Macromolecules</i> , 2013, 46, 9806-9817.	4.8	39

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19	Critical micelle concentrations of block and gradient copolymers in homopolymer: Effects of sequence distribution, composition, and molecular weight. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2008, 46, 2672-2682.	2.1	37
20	Importance of Quench Conditions on the Subsequent Physical Aging Rate of Glassy Polymer Films. <i>Macromolecules</i> , 2012, 45, 1701-1709.	4.8	35
21	Role of neighboring domains in determining the magnitude and direction of T _g -confinement effects in binary, immiscible polymer systems. <i>Polymer</i> , 2015, 80, 180-187.	3.8	34
22	Polymers under nanoconfinement: where are we now in understanding local property changes?. <i>Chemical Society Reviews</i> , 2021, 50, 8050-8066.	38.1	34
23	Optimizing the Grafting Density of Tethered Chains to Alter the Local Glass Transition Temperature of Polystyrene near Silica Substrates: The Advantage of Mushrooms over Brushes. <i>ACS Macro Letters</i> , 2018, 7, 269-274.	4.8	33
24	Review and reproducibility of forming adsorbed layers from solvent washing of melt annealed films. <i>Soft Matter</i> , 2020, 16, 5366-5387.	2.7	30
25	Hole growth in freely standing polystyrene films probed using a differential pressure experiment. <i>Physical Review E</i> , 2005, 72, 021803.	2.1	29
26	Comparing refractive index and density changes with decreasing film thickness in thin supported films across different polymers. <i>Journal of Chemical Physics</i> , 2020, 153, 044902.	3.0	29
27	Hole growth as a microrheological probe to measure the viscosity of polymers confined to thin films. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2006, 44, 3011-3021.	2.1	27
28	Changes in the temperature-dependent specific volume of supported polystyrene films with film thickness. <i>Journal of Chemical Physics</i> , 2016, 144, 234903.	3.0	27
29	Evidence of convective constraint release during hole growth in freely standing polystyrene films at low temperatures. <i>Physical Review E</i> , 2005, 72, 021802.	2.1	25
30	Local Glass Transition Temperature $T_g(z)$ Within Polystyrene Is Strongly Impacted by the Modulus of the Neighboring PDMS Domain. <i>ACS Macro Letters</i> , 2020, 9, 1625-1631.	4.8	18
31	Stability of polymer glasses vitrified under stress. <i>Soft Matter</i> , 2014, 10, 1572.	2.7	17
32	Instabilities in thin polymer films: from pattern formation to rupture. <i>Macromolecular Symposia</i> , 2000, 159, 143-150.	0.7	16
33	Differential pressure experiment to probe hole growth in freely standing polymer films. <i>Review of Scientific Instruments</i> , 2003, 74, 2796-2804.	1.3	14
34	Experimental Study of the Influence of Periodic Boundary Conditions: Effects of Finite Size and Faster Cooling Rates on Dissimilar Polymer-Polymer Interfaces. <i>ACS Macro Letters</i> , 2017, 6, 887-891.	4.8	14
35	Local Glass Transition Temperature $T_g(z)$ Profile in Polystyrene next to Polybutadiene with and without Plasticization Effects. <i>Macromolecular Chemistry and Physics</i> , 2018, 219, 1700328.	2.2	13
36	Experimental study of substrate roughness on the local glass transition of polystyrene. <i>Journal of Chemical Physics</i> , 2020, 152, 244901.	3.0	13

#	ARTICLE	IF	CITATIONS
37	Mobility on Different Length Scales in Thin Polymer Films. , 2004, , 1-38.		13
38	Characterization of phase separation of polystyrene/poly(vinyl methyl ether) blends using fluorescence. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 250-256.	2.1	10
39	Correlating glass transition and physical aging in thin polymer films. , 2016, , 181-204.		10
40	Novel Effects of Confinement and Interfaces on the Glass Transition Temperature and Physical Aging in Polymer Films and Nanocomposites. AIP Conference Proceedings, 2008, , .	0.4	9
41	Mobility and stability of glasses. Journal of Polymer Science, Part B: Polymer Physics, 2010, 48, 2558-2560.	2.1	9
42	Unexpected Molecular Weight Dependence to the Physical Aging of Thin Polystyrene Films Present at Ultra-High Molecular Weights. Journal of Polymer Science, Part B: Polymer Physics, 2019, 57, 1224-1238.	2.1	9
43	Gradient in refractive index reveals denser near free surface region in thin polymer films. Journal of Chemical Physics, 2021, 155, 144901.	3.0	8
44	Electric fields enhance miscibility of polystyrene/poly(vinyl methyl ether) blends. Journal of Chemical Physics, 2014, 141, 134908.	3.0	7
45	Aging near rough and smooth boundaries in colloidal glasses. Journal of Chemical Physics, 2017, 147, 224505.	3.0	6
46	Jumping In and Out of the Phase Diagram Using Electric Fields: Time Scale for Remixing of Polystyrene/Poly(vinyl methyl ether) Blends. ACS Macro Letters, 2019, 8, 188-192.	4.8	6
47	Effect of end group chemistry on surface molecular motion of monodisperse polystyrene films. Macromolecular Symposia, 2000, 159, 35-42.	0.7	4
48	Fundamentals of polymers and glasses. , 2016, , 1-22.		4
49	Physically intuitive continuum mechanics model for quartz crystal microbalance: Viscoelasticity of rubbery polymers at $\langle \text{MHz} \rangle$ frequencies. Journal of Polymer Science, 2022, 60, 244-257.	3.8	2