David S Simmons

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

45 papers	1,146 citations	21 h-index	33 g-index
46 ext. papers	1,349 ext. citations	5.6 avg, IF	5.28 L-index

#	Paper	IF	Citations
45	Hierarchical Shape-Specified Model Polymer Nanoparticles via Copolymer Sequence Control. *Macromolecules*, **2022**, 55, 1957-1969	5.5	1
44	Temperature dependence of aging dynamics in highly non-equilibrium model polymer glasses.. *Journal of Chemical Physics*, **2022**, 156, 114504	3.9	
43	Near-Substrate Gradients in Chain Relaxation and Viscosity in a Model Low-Molecular Weight Polymer. *Macromolecules*, **2021**, 54, 5935-5949	5.5	0
42	Nature of dynamic gradients, glass formation, and collective effects in ultrathin freestanding films. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	6
41	Mobility gradients yield rubbery surfaces on top of polymer glasses. *Nature*, **2021**, 596, 372-376	50.4	13
40	Probing the Metrology and Chemistry Dependences of the Onset Condition of Strong Nanoconfinement Effects on Dynamics. *Macromolecules*, **2020**, 53, 4158-4171	5.5	5
39	Forecasting the experimental glass transition from short time relaxation data. *Journal of Non-Crystalline Solids*, **2020**, 544, 120205	3.9	4
38	The microscopic origins of stretched exponential relaxation in two model glass-forming liquids as probed by simulations in the isoconfigurational ensemble. *Journal of Chemical Physics*, **2020**, 153, 234503	3.9	1
37	Do String-like Cooperative Motions Predict Relaxation Times in Glass-Forming Liquids?. *Journal of Physical Chemistry B*, **2020**, 124, 266-276	3.4	5
36	Design rules for glass formation from model molecules designed by a neural-network-biased genetic algorithm. *Soft Matter*, **2019**, 15, 7795-7808	3.6	11
35	Poisson ratio mismatch drives low-strain reinforcement in elastomeric nanocomposites. *Soft Matter* , **2019**, 15, 656-670	3.6	8
34	Universal localization transition accompanying glass formation: insights from efficient molecular dynamics simulations of diverse supercooled liquids. *Soft Matter*, **2019**, 15, 1223-1242	3.6	30
33	Dynamical Correlations for Statistical Copolymers from High-Throughput Broad-Band Dielectric Spectroscopy. *ACS Combinatorial Science*, **2019**, 21, 276-299	3.9	3
32	Progress towards a phenomenological picture and theoretical understanding of glassy dynamics and vitrification near interfaces and under nanoconfinement. *Journal of Chemical Physics*, **2019**, 151, 240901	3.9	50
31	Antifreeze Hydrogels from Amphiphilic Statistical Copolymers. *Chemistry of Materials*, **2019**, 31, 135-145	9.6	21
30	Structure, nanomechanics, and dynamics of dispersed surfactant-free clay nanocomposite films. *Polymer Engineering and Science*, **2018**, 58, 1285-1295	2.3	1
29	Heterogeneous Rouse Model Predicts Polymer Chain Translational Normal Mode Decoupling. *Macromolecules*, **2018**, 51, 2887-2898	5.5	18

28	Design Rules for Highly Conductive Polymeric Ionic Liquids from Molecular Dynamics Simulations. *Macromolecules*, **2018**, 51, 6630-6644	5.5	39
27	Temperature-Independent Rescaling of the Local Activation Barrier Drives Free Surface Nanoconfinement Effects on Segmental-Scale Translational Dynamics near Tg. *ACS Macro Letters*, **2018**, 7, 1295-1301	6.6	26
26	Designing Sequence-Specific Copolymer Compatibilizers Using a Molecular-Dynamics-Simulation-Based Genetic Algorithm. *Macromolecules*, **2017**, 50, 1155-1166	5.5	37
25	The relationship between dynamic and pseudo-thermodynamic measures of the glass transition temperature in nanostructured materials. *Journal of Chemical Physics*, **2017**, 146, 203316	3.9	32
24	Spatially Distributed Rheological Properties in Confined Polymers by Noncontact Shear. *Journal of Physical Chemistry Letters*, **2017**, 8, 1229-1234	6.4	16
23	Does fragility of glass formation determine the strength of T-nanoconfinement effects?. *Journal of Chemical Physics*, **2017**, 146, 104902	3.9	14
22	Correspondence between the rigid amorphous fraction and nanoconfinement effects on glass formation. *Journal of Polymer Science, Part B: Polymer Physics*, **2017**, 55, 907-918	2.6	16
21	Neural-Network-Biased Genetic Algorithms for Materials Design: Evolutionary Algorithms That Learn. *ACS Combinatorial Science*, **2017**, 19, 96-107	3.9	63
20	HORIZONS FOR DESIGN OF FILLED RUBBER INFORMED BY MOLECULAR DYNAMICS SIMULATION. *Rubber Chemistry and Technology*, **2017**, 90, 238-263	1.7	8
19	The Glass Transition of a Single Macromolecule. *Macromolecules*, **2016**, 49, 7597-7604	5.5	39
18	An Emerging Unified View of Dynamic Interphases in Polymers. *Macromolecular Chemistry and Physics*, **2016**, 217, 137-148	2.6	73
17	Three-Layer Model for the Emergence of Ultrastable Glasses from the Surfaces of Supercooled Liquids. *Journal of Physical Chemistry B*, **2016**, 120, 4861-5	3.4	19
16	Glass Formation near Covalently Grafted Interfaces: Ionomers as a Model Case. *Macromolecules*, **2015**, 48, 2313-2323	5.5	36
15	Tuning Polymer Glass Formation Behavior and Mechanical Properties with Oligomeric Diluents of Varying Stiffness. *ACS Macro Letters*, **2015**, 4, 1134-1138	6.6	31
14	Roles of chain stiffness and segmental rattling in ionomer glass formation. *Journal of Polymer Science, Part B: Polymer Physics*, **2015**, 53, 1458-1469	2.6	25
13	Understanding the Decreased Segmental Dynamics of Supported Thin Polymer Films Reported by Incoherent Neutron Scattering. *Macromolecules*, **2015**, 48, 801-808	5.5	47
12	Nanoconfinement effects on the fragility of glass formation of a model freestanding polymer film. *Soft Matter*, **2014**, 10, 3166-70	3.6	50
11	Combined Dependence of Nanoconfined on Interfacial Energy and Softness of Confinement.. *ACS Macro Letters*, **2014**, 3, 758-762	6.6	89

10	Enhancing heterogenous crystallization resistance in a bead-spring polymer model by modifying bond length. *Journal of Polymer Science, Part B: Polymer Physics*, **2014**, 52, 134-140	2.6	26
9	Response to "Comment on "Generalized Localization Model of Relaxation in Glass-Forming Liquids" by A. Ottochian et al.". *Soft Matter*, **2013**, 9, 7892	3.6	6
8	Scaled Particle Theory for the Coil–Globule Transition of an Isolated Polymer Chain. *Macromolecules*, **2013**, 46, 4691-4697	5.5	10
7	Interfacial Dynamic Length Scales in the Glass Transition of a Model Freestanding Polymer Film and Their Connection to Cooperative Motion. *Macromolecules*, **2013**, 46, 9818-9825	5.5	94
6	Generalized localization model of relaxation in glass-forming liquids. *Soft Matter*, **2012**, 8, 11455-11461	3.6	82
5	Nature and interrelations of fast dynamic properties in a coarse-grained glass-forming polymer melt. *Soft Matter*, **2011**, 7, 11010	3.6	44
4	Pressure Effects on Polymer Coil–Globule Transitions near an LCST. *Macromolecules*, **2010**, 43, 1571-1574	5.5	5
3	A Model for a Thermally Induced Polymer Coil-to-Globule Transition. *Macromolecules*, **2008**, 41, 5885-5889	5.5	14
2	Influence of physical and chemical heterogeneity shape on thin film rupture. *Journal of Colloid and Interface Science*, **2006**, 295, 472-81	9.3	28
1	Macromolecular Modeling1-40		