Martin Krger

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234 papers	8,557 citations	47 h-index	82 g-index
260 ext. papers	9,583 ext. citations	4.7 avg, IF	6.69 L-index

#	Paper	IF	Citations
234	Poly(N-isopropylacrylamide) Phase Diagrams: Fifty Years of Research. *Angewandte Chemie - International Edition*, **2015**, 54, 15342-67	16.4	557
233	Shortest multiple disconnected path for the analysis of entanglements in two- and three-dimensional polymeric systems. *Computer Physics Communications*, **2005**, 168, 209-232	4.2	310
232	Simple models for complex nonequilibrium fluids. *Physics Reports*, **2004**, 390, 453-551	27.7	238
231	Topological analysis of polymeric melts: chain-length effects and fast-converging estimators for entanglement length. *Physical Review E*, **2009**, 80, 031803	2.4	214
230	Shape effect in cellular uptake of PEGylated nanoparticles: comparison between sphere, rod, cube and disk. *Nanoscale*, **2015**, 7, 16631-46	7.7	204
229	Rheology and structural changes of polymer melts via nonequilibrium molecular dynamics. *Journal of Rheology*, **1993**, 37, 1057-1079	4.1	196
228	Rheological evidence for a dynamical crossover in polymer melts via nonequilibrium molecular dynamics. *Physical Review Letters*, **2000**, 85, 1128-31	7.4	190
227	Crossover from the Rouse to the Entangled Polymer Melt Regime: Signals from Long, Detailed Atomistic Molecular Dynamics Simulations, Supported by Rheological Experiments. *Macromolecules* , **2003**, 36, 1376-1387	5.5	179
226	Primitive Path Networks Generated by Annealing and Geometrical Methods: Insights into Differences. *Macromolecules*, **2007**, 40, 2897-2903	5.5	160
225	Challenges in Multiscale Modeling of Polymer Dynamics. *Polymers*, **2013**, 5, 751-832	4.5	143
224	Endocytosis of PEGylated nanoparticles accompanied by structural and free energy changes of the grafted polyethylene glycol. *Biomaterials*, **2014**, 35, 8467-78	15.6	142
223	Nanoparticle effect on the dynamics of polymer chains and their entanglement network. *Physical Review Letters*, **2012**, 109, 118001	7.4	141
222	Primitive Path Identification and Entanglement Statistics in Polymer Melts: Results from Direct Topological Analysis on Atomistic Polyethylene Models. *Macromolecules*, **2006**, 39, 4207-4216	5.5	137
221	Flow Effects on Melt Structure and Entanglement Network of Linear Polymers: Results from a Nonequilibrium Molecular Dynamics Simulation Study of a Polyethylene Melt in Steady Shear. *Macromolecules*, **2010**, 43, 6886-6902	5.5	128
220	Combined molecular algorithms for the generation, equilibration and topological analysis of entangled polymers: methodology and performance. *International Journal of Molecular Sciences*, **2009**, 10, 5054-89	6.3	124
219	Tuning polymer thickness: synthesis and scaling theory of homologous series of dendronized polymers. *Journal of the American Chemical Society*, **2009**, 131, 11841-54	16.4	121
218	Effect of charge, hydrophobicity, and sequence of nucleoporins on the translocation of model particles through the nuclear pore complex. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 3363-8	11.5	113

217	Polymer Melts under Uniaxial Elongational Flow: Stress-Optical Behavior from Experiments and Nonequilibrium Molecular Dynamics Computer Simulations. *Macromolecules*, **1997**, 30, 526-539	5.5	106
216	The largest synthetic structure with molecular precision: towards a molecular object. *Angewandte Chemie - International Edition*, **2011**, 50, 737-40	16.4	102
215	A thermodynamically admissible reptation model for fast flows of entangled polymers. II. Model predictions for shear and extensional flows. *Journal of Rheology*, **2000**, 44, 1293-1317	4.1	100
214	Viscoelastic flows studied by smoothed particle dynamics. *Journal of Non-Newtonian Fluid Mechanics*, **2002**, 105, 35-51	2.7	98
213	Modeling of Polymer Structure and Conformations in Polymer Nanocomposites from Atomistic to Mesoscale: A Review. *Polymer Reviews*, **2016**, 56, 385-428	14	97
212	A predictive multiscale computational framework for viscoelastic properties of linear polymers. *Polymer*, **2012**, 53, 5935-5952	3.9	91
211	Nanoparticle Geometrical Effect on Structure, Dynamics and Anisotropic Viscosity of Polyethylene Nanocomposites. *Macromolecules*, **2012**, 45, 2099-2112	5.5	87
210	Quantifying chain reptation in entangled polymer melts: topological and dynamical mapping of atomistic simulation results onto the tube model. *Journal of Chemical Physics*, **2010**, 132, 124904	3.9	87
209	Structure and Dynamics of Dilute Polymer Solutions under Shear Flow via Nonequilibrium Molecular Dynamics. *Macromolecules*, **1999**, 32, 5660-5672	5.5	84
208	Direct observation of the dynamics of semiflexible polymers in shear flow. *Physical Review Letters*, **2013**, 110, 108302	7.4	83
207	Influence of Nanorod Inclusions on Structure and Primitive Path Network of Polymer Nanocomposites at Equilibrium and Under Deformation. *Macromolecules*, **2011**, 44, 1034-1045	5.5	83
206	A theoretical evaluation of the effects of carbon nanotube entanglement and bundling on the structural and mechanical properties of buckypaper. *Carbon*, **2012**, 50, 1793-1806	10.4	81
205	Morphology control of hairy nanopores. *ACS Nano*, **2011**, 5, 4737-47	16.7	80
204	Collapse of Thermoresponsive Brushes and the Tuning of Protein Adsorption. *Macromolecules*, **2011**, 44, 6986-7005	5.5	79
203	From Dendrimers to Dendronized Polymers and Forests: Scaling Theory and its Limitations. *Macromolecules*, **2010**, 43, 6213-6224	5.5	76
202	Adsorption of core-shell nanoparticles at liquid-liquid interfaces. *Soft Matter*, **2011**, 7, 7663	3.6	75
201	Molecular simulation guided constitutive modeling on finite strain viscoelasticity of elastomers. *Journal of the Mechanics and Physics of Solids*, **2016**, 88, 204-226	5	67
200	Dynamic structure of unentangled polymer chains in the vicinity of non-attractive nanoparticles. *Soft Matter*, **2014**, 10, 1723-37	3.6	67

199	Wormlike micelles under shear flow: A microscopic model studied by nonequilibrium-molecular-dynamics computer simulations. *Physical Review E*, **1996**, 53, 2531-2536	2.4	66
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197	Simple, admissible, and accurate approximants of the inverse Langevin and Brillouin functions, relevant for strong polymer deformations and flows. *Journal of Non-Newtonian Fluid Mechanics*, **2015**, 223, 77-87	2.7	58
196	Variance reduced Brownian simulation of a bead-spring chain under steady shear flow considering hydrodynamic interaction effects. *Journal of Chemical Physics*, **2000**, 113, 4767-4773	3.9	58
195	Dendronized Polymers: Molecular Objects between Conventional Linear Polymers and Colloidal Particles. *ACS Macro Letters*, **2014**, 3, 991-998	6.6	56
194	Structure, dimensions, and entanglement statistics of long linear polyethylene chains. *Journal of Physical Chemistry B*, **2009**, 113, 442-55	3.4	56
193	Chaotic orientational behavior of a nematic liquid crystal subjected to a steady shear flow. *Physical Review E*, **2002**, 66, 040702	2.4	55
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191	Chaotic and regular shear-induced orientational dynamics of nematic liquid crystals. *Physica A: Statistical Mechanics and Its Applications*, **2002**, 315, 537-568	3.3	51
190	Molecular dynamics simulations of polymer crystallization under confinement: Entanglement effect. *Polymer*, **2017**, 109, 71-84	3.9	49
189	Theoretical considerations on mechanisms of harvesting cells cultured on thermoresponsive polymer brushes. *Biomaterials*, **2012**, 33, 4975-87	15.6	49
188	Rheological and entanglement characteristics of linear-chain polyethylene liquids in planar Couette and planar elongational flows. *Journal of Non-Newtonian Fluid Mechanics*, **2008**, 152, 168-183	2.7	48
187	Systematic time-scale-bridging molecular dynamics applied to flowing polymer melts. *Physical Review E*, **2009**, 79, 011802	2.4	47
186	Molecular dynamics of model liquid crystals composed of semiflexible molecules. *Physical Review E*, **1996**, 54, 5178-5186	2.4	47
185	Aggregation of polyethylene glycol polymers suppresses receptor-mediated endocytosis of PEGylated liposomes. *Nanoscale*, **2018**, 10, 4545-4560	7.7	46
184	Entanglements and Dynamics of Polymer Melts near a SWCNT. *Macromolecules*, **2012**, 45, 7274-7281	5.5	45
183	Primitive chain network study on uncrosslinked and crosslinked cis-polyisoprene polymers. *Polymer*, **2011**, 52, 5867-5878	3.9	45
182	A Two-Dimensional Polymer Synthesized at the Air/Water Interface. *Angewandte Chemie - International Edition*, **2018**, 57, 10584-10588	16.4	44

181	Universal scaling, entanglements, and knots of model chain molecules. *Physical Review Letters*, **2008**, 101, 265702	7.4	44
180	Consistent closure schemes for statistical models of anisotropic fluids. *Journal of Non-Newtonian Fluid Mechanics*, **2008**, 149, 40-55	2.7	44
179	Magnetoviscosity of semidilute ferrofluids and the role of dipolar interactions: comparison of molecular simulations and dynamical mean-field theory. *Physical Review E*, **2005**, 71, 031205	2.4	44
178	Viscoelasticity of polymeric melts and concentrated solutions. The effect of flow-induced alignment of chain ends. *Physica A: Statistical Mechanics and Its Applications*, **1993**, 195, 336-353	3.3	44
177	Kinetics of gene derepression by ERK signaling. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 10330-5	11.5	43
176	Thermomechanical properties of the WCA–Lennard-Jones model system in its fluid and solid states. *Physica A: Statistical Mechanics and Its Applications*, **1998**, 250, 58-82	3.3	43
175	Height and Width of Adsorbed Dendronized Polymers: Electron and Atomic Force Microscopy of Homologous Series. *Macromolecules*, **2011**, 44, 6785-6792	5.5	41
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173	Random packing of model polymers: local structure, topological hindrance and universal scaling. *Soft Matter*, **2009**, 5, 1762	3.6	40
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171	Entanglements and Crystallization of Concentrated Polymer Solutions: Molecular Dynamics Simulations. *Macromolecules*, **2016**, 49, 9017-9025	5.5	39
170	Polymer Brushes under Shear: Molecular Dynamics Simulations Compared to Experiments. *Langmuir*, **2015**, 31, 4798-805	4	38
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168	Magnetization dynamics, rheology, and an effective description of ferromagnetic units in dilute suspension. *Physical Review E*, **2002**, 66, 021501	2.4	36
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165	Viscoelasticity of carbon nanotube buckypaper: zipping–unzipping mechanism and entanglement effects. *Soft Matter*, **2012**, 8, 7822	3.6	35
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159	Regular and chaotic orientational and rheological behaviour of liquid crystals. *Journal of Physics Condensed Matter*, **2004**, 16, S3835-S3859	1.8	31
158	Phase behavior and structure of Janus fluids. *Physical Review E*, **2003**, 67, 041209	2.4	31
157	Self-Folding of Charged Single Dendronized Polymers. *Advanced Materials*, **2008**, 20, 3204-3210	24	30
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120	Lubricated optical rheometer for the study of two-dimensional complex flows of polymer melts. *Journal of Non-Newtonian Fluid Mechanics*, **2008**, 150, 43-55	2.7	20
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100	Dynamics of interacting magnetic nanoparticles: effective behavior from competition between Brownian and Néel relaxation. *Physical Chemistry Chemical Physics*, **2020**, 22, 22244-22259	3.6	15
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98	Crossover between short- and long-time behavior of stress fluctuations and viscoelasticity of liquids. *Physical Review E*, **2003**, 67, 042201	2.4	14
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85	Branching Defects in Dendritic Molecules: Coupling Efficiency and Congestion Effects. *Macromolecules*, **2013**, 46, 7550-7564	5.5	11
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