Robert M Elder

List of Publications by Year
in descending order

32 papers	769 citations	516710 16 h-index	526287 27 g-index
32 all docs	32 docs citations	32 times ranked	910 citing authors

#	Article	IF	Citations
1	Predicting Solute Diffusivity in Polymers Using Timeâ€“Temperature Superposition. Journal of Physical Chemistry B, 2022, 126, 3768-3777.	2.6	3
2	Glass fiber-epoxy interactions in the presence of silane: A molecular dynamics study. Applied Surface Science, 2021, 542, 148738.	6.1	34
3	Relations Between Dynamic Localization and Solute Diffusion in Polymers. Journal of Physical Chemistry B, 2021, 125, 9372-9383.	2.6	4
4	Scaling up the lattice dynamics of amorphous materials by orders of magnitude. Physical Review B, 2020, 102, .	3.2	8
5	Leveraging Extraction Testing to Predict Patient Exposure to Polymeric Medical Device Leachables Using Physics-based Models. Toxicological Sciences, 2020, 178, 201-211.	3.1	14
6	Advances in predicting patient exposure to medical device leachables. Medical Devices & Sensors, 2020, 3, e10063.	2.7	7
7	Epoxy resin thermo-mechanics and failure modes: Effects of cure and cross-linker length. Composites Part B: Engineering, 2020, 186, 107814.	12.0	43
8	Identifying Nonaffine Softening Modes in Glassy Polymer Networks: A Pathway to Chemical Design. ACS Macro Letters, 2019, 8, 1160-1165.	4.8	14
9	Origins of error in the localized virial stress. Chemical Physics Letters, 2019, 731, 136580.	2.6	9
10	Influence of molecular weight between crosslinks on the mechanical properties of polymers formed via ring-opening metathesis. Soft Matter, 2018, 14, 3344-3360.	2.7	60
11	Graphene/hexagonal boron nitride heterostructures: Mechanical properties and fracture behavior from nanoindentation simulations. Applied Physics Letters, 2018, 113, .	3.3	16
12	Mechanics and nanovoid nucleation dynamics: effects of polar functionality in glassy polymer networks. Soft Matter, 2018, 14, 8895-8911.	2.7	24
13	Parameter-free predictions of the viscoelastic response of glassy polymers from non-affine lattice dynamics. Soft Matter, 2018, 14, 8475-8482.	2.7	45
14	Molecular origins of anisotropic shock propagation in crystalline and amorphous polyethylene. Physical Review Materials, 2018, 2, .	2.4	18
15	Topological structure and mechanics of glassy polymer networks. Soft Matter, 2017, 13, 8392-8401.	2.7	7
16	Modeling of glycidoxypropyltrimethoxy silane compositions using molecular dynamics simulations. Computational Materials Science, 2017, 140, 82-88.	3.0	8
17	Nonmonotonic dependence of polymer-glass mechanical response on chain bending stiffness. Physical Review E, 2017, 96, 030501.	2.1	16
18	Ballistic Response of Polydicyclopentadiene vs. Epoxy Resins and Effects of Crosslinking. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 285-290.	0.5	5

#	Article	IF	Citations
19	Shock-wave propagation and reflection in semicrystalline polyethylene: A molecular-level investigation. Physical Review Materials, 2017, 1, .	2.4	15
20	Nanovoid formation and mechanics: a comparison of poly(dicyclopentadiene) and epoxy networks from molecular dynamics simulations. Soft Matter, 2016, 12, 4418-4434.	2.7	49
21	Effect of Hydrophobic and Hydrophilic Surfaces on the Stability of Double-Stranded DNA. Biomacromolecules, 2015, 16, 1862-1869.	5.4	28
22	Overcoming the structural versus energy dissipation trade-off in highly crosslinked polymer networks: Ultrahigh strain rate response in polydicyclopentadiene. Composites Science and Technology, 2015, 114, 17-25.	7.8	63
23	A molecular simulation study of the glass transition of cross-linked poly(dicyclopentadiene) networks. Chemical Physics Letters, 2015, 637, 103-109.	2.6	34
24	Stacking order dependent mechanical properties of graphene/MoS2 bilayer and trilayer heterostructures. Applied Physics Letters, 2015, 107, .	3.3	45
25	Simulation study of the effects of surface chemistry and temperature on the conformations of ssDNA oligomers near hydrophilic and hydrophobic surfaces. Journal of Chemical Physics, 2014, 140, .	3.0	8
26	Interaction of Hyaluronan Binding Peptides with Glycosaminoglycans in Poly(ethylene glycol) Hydrogels. Biomacromolecules, 2014, 15, 1132-1141.	5.4	34
27	Molecular Simulations of Polycationâ€“DNA Binding Exploring the Effect of Peptide Chemistry and Sequence in Nuclear Localization Sequence Based Polycations. Journal of Physical Chemistry B, 2013, 117, 11988-11999.	2.6	18
28	Structure and thermodynamics of ssDNA oligomers near hydrophobic and hydrophilic surfaces. Soft Matter, 2013, 9, 11521.	2.7	26
29	Role of structure and dynamics of DNA with cisplatin and oxaliplatin adducts in various sequence contexts on binding of HMGB1a. Molecular Simulation, 2012, 38, 793-808.	2.0	5
30	Sequence-Specific Recognition of Cancer Drug-DNA Adducts by HMGB1a Repair Protein. Biophysical Journal, 2012, 102, 2331-2338.	0.5	11
31	Coarse-Grained Simulation Studies of Effects of Polycation Architecture on Structure of the Polycation and Polycationâ€“Polyanion Complexes. Macromolecules, 2012, 45, 8083-8096.	4.8	20
32	Understanding the Effect of Polylysine Architecture on DNA Binding Using Molecular Dynamics Simulations. Biomacromolecules, 2011, 12, 3870-3879.	5.4	78