Sizhu Wu

List of Publications by Year
in descending order

33 papers	918 citations	394421 19 h-index	454955 30 g-index
33 all docs	33 docs citations	33 times ranked	675 citing authors

#	Article	IF	Citations
1	A combined experiment and molecular dynamics simulation study of hydrogen bonds and free volume in nitrile-butadiene rubber/hindered phenol damping mixtures. Journal of Materials Chemistry, 2012, 22, 12339.	6.7	133
2	Effects of antioxidant functionalized silica on reinforcement and anti-aging for solution-polymerized styrene butadiene rubber: Experimental and molecular simulation study. Materials and Design, 2018, 154, 312-325.	7.0	75
3	Molecular Dynamics Simulation Insight Into Two-Component Solubility Parameters of Graphene and Thermodynamic Compatibility of Graphene and Styrene Butadiene Rubber. Journal of Physical Chemistry C, 2017, 121, 10163-10173.	3.1	51
4	Molecular dynamics simulations and microscopic analysis of the damping performance of hindered phenol AO-60/nitrile-butadiene rubber composites. RSC Advances, 2014, 4, 6719.	3.6	49
5	Synergistic effects of antioxidant and silica on enhancing thermo-oxidative resistance of natural rubber: Insights from experiments and molecular simulations. Materials and Design, 2019, 181, 107944.	7.0	46
6	High Performance Natural Rubber Composites with Well-Organized Interconnected Graphene Networks for Strain-Sensing Application. Industrial & Engineering Chemistry Research, 2016, 55, 4919-4929.	3.7	40
7	Investigation of the damping properties of hindered phenol AO-80/polyacrylate hybrids using molecular dynamics simulations in combination with experimental methods. Journal of Materials Science, 2016, 51, 5760-5774.	3.7	40
8	A Combined Experimental and Molecular Simulation Study of Factors Influencing the Selection of Antioxidants in Butadiene Rubber. Journal of Physical Chemistry B, 2017, 121, 1413-1425.	2.6	39
9	Molecular-level insight of hindered phenol AO-70/nitrile-butadiene rubber damping composites through a combination of a molecular dynamics simulation and experimental method. RSC Advances, 2016, 6, 85994-86005.	3.6	38
10	Analysis of phthalate plasticizer migration from PVDC packaging materials to food simulants using molecular dynamics simulations and artificial neural network. Food Chemistry, 2020, 317, 126465.	8.2	38
11	Thermodynamic analyses of the hydrogen bond dissociation reaction and their effects on damping and compatibility capacities of polar small molecule/nitrile-butadiene rubber systems: Molecular simulation and experimental study. Polymer, 2018, 155, 152-167.	3.8	35
12	Effect of acrylonitrile content on compatibility and damping properties of hindered phenol AO-60/nitrile-butadiene rubber composites: molecular dynamics simulation. RSC Advances, 2014, 4, 48472-48479.	3.6	34
13	Structures and properties of alkanethiol-modified graphene oxide/solution-polymerized styrene butadiene rubber composites: Click chemistry and molecular dynamics simulation. Composites Science and Technology, 2018, 161, 32-38.	7.8	34
14	Experimental and molecular dynamics simulation study on the damping mechanism of C5 petroleum resin/chlorinated butyl rubber composites. Journal of Materials Science, 2019, 54, 3960-3974.	3.7	28
15	Experimental study and molecular dynamics simulation of dynamic properties and interfacial bonding characteristics of graphene/solution-polymerized styrene-butadiene rubber composites. RSC Advances, 2016, 6, 58077-58087.	3.6	22
16	Effect of chemical structure of elastomer on filler dispersion and interactions in silica/solution-polymerized styrene butadiene rubber composites through molecular dynamics simulation. RSC Advances, 2016, 6, 14643-14650.	3.6	21
17	Compressive stress relaxation modeling of butadiene rubber under thermoâ€oxidative aging. Journal of Applied Polymer Science, 2017, 134, .	2.6	21
18	Vulcanization and antioxidation effects of accelerator modified antioxidant in styrene-butadiene rubber: Experimental and computational studies. Polymer Degradation and Stability, 2020, 177, 109181.	5.8	21

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19	Quantitative relationships between intermolecular interaction and damping parameters of irganoxâ€1035/NBR hybrids: A combination of experiments, molecular dynamics simulations, and linear regression analyses. Journal of Applied Polymer Science, 2018, 135, 46202.	2.6	20
20	Click chemistry modified graphene oxide/styrene-butadiene rubber composites and molecular simulation study. Composites Science and Technology, 2020, 190, 108061.	7.8	19
21	Antioxidation behavior of bonded primary-secondary antioxidant/styrene-butadiene rubber composite: Experimental and molecular simulation investigations. Polymer, 2020, 188, 122143.	3.8	18
22	Study on the mechanisms of the lubricating oil antioxidants: Experimental and molecular simulation. Journal of Molecular Liquids, 2021, 324, 115099.	4.9	17
23	Insight into the anti-aging mechanisms of natural phenolic antioxidants in natural rubber composites using a screening strategy based on molecular simulation. RSC Advances, 2020, 10, 21318-21327.	3.6	15
24	Molecular Dynamics Simulation Study on Two-Component Solubility Parameters of Carbon Nanotubes and Precisely Tailoring the Thermodynamic Compatibility between Carbon Nanotubes and Polymers. Langmuir, 2020, 36, 9291-9305.	3.5	13
25	Data for effects of lanthanum complex on the thermo-oxidative aging of natural rubber. Data in Brief, 2015, 5, 789-795.	1.0	11
26	Study on the Effect of Polymer Excipients on the Dispersibility, Interaction, Solubility, and Scavenging Reactive Oxygen Species of Myricetin Solid Dispersion: Experiment and Molecular Simulation. ACS Omega, 2022, 7, 1514-1526.	3.5	11
27	How the hindered amines affect the microstructure and mechanical properties of nitrile-butadiene rubber composites. E-Polymers, 2019, 20, 8-15.	3.0	8
28	The Relationship between Specific Structure and Gas Permeability of Bromobutyl Rubber: A Combination of Experiments and Molecular Simulations. Macromolecular Theory and Simulations, 2019, 28, 1900025.	1.4	6
29	Artificial Neural Network Prediction and Mechanism Analysis for Migration of Environmental Contaminant Cyclic Organosiloxane Oligomer from Silicone Rubber. Industrial & Engineering Chemistry Research, 2019, 58, 11093-11100.	3.7	6
30	Antioxidant Behavior Affected by Polarity in the Olive Oil: Experimental and Molecular Simulation Investigations. ACS Omega, 2021, 6, 7119-7126.	3.5	5
31	New Insights into the Quantitative Relationship between Surface Chemistry of Fullerene (C60) and Solubility Parameters and Compatibility with Polymers. Journal of Physical Chemistry B, 2021, 125, 5420-5433.	2.6	4
32	Study on the gas permeabilities in styrene-butadiene rubber by molecular dynamics simulation. Frontiers of Chemical Engineering in China, 2010, 4, 257-262.	0.6	0
33	Study on the Factors Influencing of the Anti-aging Behaviour in Different Antioxidants/Butadiene Rubber. IOP Conference Series: Materials Science and Engineering, 2019, 585, 012005.	0.6	0