Zhen-Gang Wang

List of Publications by Year
in descending order

105	4,021	94381 37	133188 59
papers	citations	h-index	g-index

105	105	105	3269
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Fluctuation in electrolyte solutions: The self energy. Physical Review E, 2010, 81, 021501.	0.8	170
2	Systematic Computational and Experimental Investigation of Lithium-Ion Transport Mechanisms in Polyester-Based Polymer Electrolytes. ACS Central Science, 2015, 1, 198-205.	5.3	162
3	Designing Polymer Electrolytes for Safe and High Capacity Rechargeable Lithium Batteries. Accounts of Chemical Research, 2017, 50, 590-593.	7.6	149
4	Thermodynamic Properties of Block Copolymer Electrolytes Containing Imidazolium and Lithium Salts. Macromolecules, 2010, 43, 8282-8289.	2.2	131
5	Thermodynamics of Ion-Containing Polymer Blends and Block Copolymers. Physical Review Letters, 2011, 107, 198301.	2.9	129
6	Salt-doped block copolymers: ion distribution, domain spacing and effective Ï‡ parameter. Soft Matter, 2012, 8, 9356.	1.2	113
7	50th Anniversary Perspective: Polymer Conformationâ€”A Pedagogical Review. Macromolecules, 2017, 50, 9073-9114.	2.2	113
8	Concentration fluctuation in binary polymer blends: Ï‡ parameter, spinodal and Ginzburg criterion. Journal of Chemical Physics, 2002, 117, 481-500.	1.2	111
9	Dynamics of Water near a Protein Surface. Journal of Physical Chemistry B, 2003, 107, 13218-13228.	1.2	100
10	DNA Packaging in Bacteriophage: Is Twist Important?. Biophysical Journal, 2005, 88, 3912-3923.	0.2	98
11	Effects of Ion Solvation on the Miscibility of Binary Polymer Blends. Journal of Physical Chemistry B, 2008, 112, 16205-16213.	1.2	96
12	Salt Partitioning in Complex Coacervation of Symmetric Polyelectrolytes. Macromolecules, 2018, 51, 5586-5593.	2.2	83
13	Chemically Specific Dynamic Bond Percolation Model for Ion Transport in Polymer Electrolytes. Macromolecules, 2015, 48, 7346-7358.	2.2	77
14	Exact Results for a Semiflexible Polymer Chain in an Aligning Field. Macromolecules, 2004, 37, 5814-5823.	2.2	73
15	Polyelectrolyte complex coacervation: Effects of concentration asymmetry. Journal of Chemical Physics, 2018, 149, 163303.	1.2	71
16	Electrostatic correlations and the polyelectrolyte self energy. Journal of Chemical Physics, 2017, 146, 084901.	1.2	69
17	Nucleation in binary polymer blends: A self-consistent field study. Journal of Chemical Physics, 2002, 116, 2289-2300.	1.2	67
18	Salting-Out and Salting-In of Polyelectrolyte Solutions: A Liquid-State Theory Study. Macromolecules, 2016, 49, 9720-9730.	2.2	63

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19	Combined Theoretical and Experimental Study of Refractive Indices of Waterâ€“Acetonitrileâ€“Salt Systems. Journal of Physical Chemistry B, 2015, 119, 10701-10709.	1.2	60
20	Polyelectrolyte Chain Structure and Solution Phase Behavior. Macromolecules, 2018, 51, 1706-1717.	2.2	60
21	Ion Solvation in Liquid Mixtures: Effects of Solvent Reorganization. Physical Review Letters, 2012, 109, 257802.	2.9	57
22	First-Order Disordered-to-Lamellar Phase Transition in Lithium Salt-Doped Block Copolymers. ACS Macro Letters, 2013, 2, 478-481.	2.3	57
23	End-to-end distance vector distribution with fixed end orientations for the wormlike chain model. Physical Review E, 2005, 72, 041802.	0.8	56
24	Thermodynamic basis for the genome to capsid charge relationship in viral encapsidation. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16986-16991.	3.3	56
25	Effects of image charges on double layer structure and forces. Journal of Chemical Physics, 2013, 139, 124702.	1.2	54
26	Ion transport in small-molecule and polymer electrolytes. Journal of Chemical Physics, 2020, 153, 100903.	1.2	53
27	Coil-to-globule transition by dissipative particle dynamics simulation. Journal of Chemical Physics, 2011, 134, 244904.	1.2	52
28	Metastable cluster intermediates in the condensation of charged macromolecule solutions. Journal of Chemical Physics, 2007, 127, 084912.	1.2	51
29	Phase Behavior of a Block Copolymer/Salt Mixture through the Order-to-Disorder Transition. Macromolecules, 2014, 47, 2666-2673.	2.2	50
30	Nature of Disordered Micelles in Sphere-Forming Block Copolymer Melts. Macromolecules, 2005, 38, 1979-1988.	2.2	47
31	Theory of Polymer Chains in Poor Solvent: Single-Chain Structure, Solution Thermodynamics, and Î˜ Point. Macromolecules, 2014, 47, 4094-4102.	2.2	47
32	Like dissolves like: A first-principles theory for predicting liquid miscibility and mixture dielectric constant. Science Advances, 2021, 7, .	4.7	47
33	Thermodynamics of Salt-Doped Block Copolymers. ACS Macro Letters, 2014, 3, 708-711.	2.3	46
34	Nucleation of stable cylinders from a metastable lamellar phase in a diblock copolymer melt. Journal of Chemical Physics, 2003, 118, 10293-10305.	1.2	45
35	Semiflexible polymer solutions. I. Phase behavior and single-chain statistics. Journal of Chemical Physics, 2003, 119, 13113-13128.	1.2	42
36	Accurate Determination of Ion Polarizabilities in Aqueous Solutions. Journal of Physical Chemistry B, 2017, 121, 6416-6424.	1.2	42

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37	Origin of Stress Overshoot during Startup Shear of Entangled Polymer Melts. ACS Macro Letters, 2014, 3, 569-573.	2.3	41
38	Monte Carlo simulation of a single ring among linear chains: Structural and dynamic heterogeneity. Journal of Chemical Physics, 2010, 133, 064901.	1.2	39
39	Microscopic origins of the swim pressure and the anomalous surface tension of active matter. Physical Review E, 2020, 101, 012604.	0.8	37
40	On the theoretical description of weakly charged surfaces. Journal of Chemical Physics, 2015, 142, 104705.	1.2	36
41	Image-charge effects on ion adsorption near aqueous interfaces. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	36
42	Effects of ion solvation on phase equilibrium and interfacial tension of liquid mixtures. Journal of Chemical Physics, 2011, 135, 014707.	1.2	35
43	Effects of Ion-Induced Cross-Linking on the Phase Behavior in Salt-Doped Polymer Blends. Macromolecules, 2016, 49, 425-431.	2.2	35
44	Salt-Induced Liquidâ€“Liquid Phase Separation: Combined Experimental and Theoretical Investigation of Waterâ€“Acetonitrileâ€“Salt Mixtures. Journal of the American Chemical Society, 2021, 143, 773-784.	6.6	35
45	Continuous Self-Energy of Ions at the Dielectric Interface. Physical Review Letters, 2014, 112, 136101.	2.9	33
46	Analysis and Control of Chain Mobility in Protein Hydrogels. Journal of the American Chemical Society, 2017, 139, 3796-3804.	6.6	33
47	Celebrating Soft Matter's 10th Anniversary: Chain configuration and rate-dependent mechanical properties in transient networks. Soft Matter, 2015, 11, 2085-2096.	1.2	32
48	Interfacial Curvature in Graft and Diblock Copolymers and Implications for Long-Range Order in Cylindrical Morphologies. Macromolecules, 1997, 30, 6771-6782.	2.2	31
49	Mechanisms of Diffusion in Associative Polymer Networks: Evidence for Chain Hopping. Journal of the American Chemical Society, 2018, 140, 14185-14194.	6.6	30
50	Computationally focusing the directed evolution of proteins. Journal of Cellular Biochemistry, 2001, 84, 58-63.	1.2	29
51	Theory of Polymers in Poor Solvent: Phase Equilibrium and Nucleation Behavior. Macromolecules, 2012, 45, 6266-6271.	2.2	28
52	Density functional theory for charged fluids. Soft Matter, 2018, 14, 5878-5887.	1.2	28
53	Electrostatic Regulation of Genome Packaging in Human Hepatitis B Virus. Biophysical Journal, 2009, 96, 3065-3073.	0.2	27
54	Swimming to Stability: Structural and Dynamical Control via Active Doping. ACS Nano, 2019, 13, 560-572.	7.3	27

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55	A simple model for the anomalous intrinsic viscosity of dendrimers. Soft Matter, 2010, 6, 2619.	1.2	26
56	Effects of dielectric inhomogeneity in polyelectrolyte solutions. Soft Matter, 2013, 9, 5686.	1.2	24
57	Effects of Confinement and Ion Adsorption in Ionic Liquid Supercapacitors with Nanoporous Electrodes. ACS Nano, 2021, 15, 11724-11733.	7.3	24
58	Nucleation of membrane adhesions. Physical Review E, 2008, 77, 021906.	0.8	23
59	Theory of Side-Chain Liquid Crystal Polymers: Bulk Behavior and Chain Conformation. Macromolecules, 2010, 43, 10096-10106.	2.2	22
60	Evolution of Chain Conformation and Entanglements during Startup Shear. ACS Macro Letters, 2013, 2, 561-565.	2.3	22
61	Minimum free energy paths for a nanoparticle crossing the lipid membrane. Soft Matter, 2012, 8, 12066.	1.2	21
62	Globally Suppressed Dynamics in Ion-Doped Polymers. ACS Macro Letters, 2018, 7, 734-738.	2.3	20
63	Surface Charge Density in Electrical Double Layer Capacitors with Nanoscale Cathodeâ€“Anode Separation. Journal of Physical Chemistry B, 2021, 125, 625-636.	1.2	20
64	Electrostatic Correlations and Temperature-Dependent Dielectric Constant Can Model LCST in Polyelectrolyte Complex Coacervation. Macromolecules, 2021, 54, 11326-11337.	2.2	20
65	Chain Dimensions in Amorphous Polymer Melts. Macromolecules, 1995, 28, 570-576.	2.2	19
66	On the direct evaluation of the equilibrium distribution of clusters by simulation. Journal of Chemical Physics, 1999, 111, 9958-9964.	1.2	19
67	Polymer-Tethered Ligand-Receptor Interactions between Surfaces II. Langmuir, 2007, 23, 13024-13039.	1.6	18
68	Transient instability upon temperature quench in weakly ordered block copolymers. Journal of Chemical Physics, 1999, 111, 10681-10688.	1.2	16
69	An efficient dissipative particle dynamics-based algorithm for simulating electrolyte solutions. Journal of Chemical Physics, 2015, 142, 024103.	1.2	16
70	Inhomogeneous screening near the dielectric interface. Journal of Chemical Physics, 2016, 144, 134902.	1.2	16
71	Shear-Induced Heterogeneity in Associating Polymer Gels: Role of Network Structure and Dilatancy. Physical Review Letters, 2017, 119, 117801.	2.9	16
72	VARIATIONAL ELECTROSTATICS FOR CHARGE SOLVATION. Journal of Theoretical and Computational Chemistry, 2008, 07, 397-419.	1.8	15

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73	Effects of Surface Transition and Adsorption on Ionic Liquid Capacitors. Journal of Physical Chemistry Letters, 2020, 11, 1767-1772.	2.1	15
74	Interfacial Structure and Tension of Polyelectrolyte Complex Coacervates. Macromolecules, 2021, 54, 10994-11007.	2.2	15
75	Complexation between Oppositely Charged Polyelectrolytes in Dilute Solution: Effects of Charge Asymmetry. Macromolecules, 2022, 55, 3898-3909.	2.2	15
76	Discontinuous Bubble Nucleation Due to a Metastable Condensation Transition in Polymerâ€“CO2 Mixtures. Journal of Physical Chemistry Letters, 2013, 4, 1639-1643.	2.1	13
77	Polymer-tethered ligand-receptor interactions between surfaces. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 2621-2637.	2.4	12
78	On the origin of oscillatory interactions between surfaces mediated by polyelectrolyte solution. Journal of Chemical Physics, 2019, 151, 214901.	1.2	12
79	Revisiting the Î˜ Point. Macromolecules, 2020, 53, 10409-10420.	2.2	12
80	Supernatant Phase in Polyelectrolyte Complex Coacervation: Cluster Formation, Binodal, and Nucleation. Macromolecules, 2022, 55, 3910-3923.	2.2	12
81	Nucleation in binary polymer blends:â€‚Effects of adding diblock copolymers. Journal of Chemical Physics, 2003, 118, 8997-9006.	1.2	11
82	Food Polyelectrolytes Compress the Colonic Mucus Hydrogel by a Donnan Mechanism. Biomacromolecules, 2019, 20, 2675-2683.	2.6	11
83	Density-Functional Theory for Mixtures of AB Random Copolymer and CO₂. Macromolecules, 2015, 48, 6035-6046.	2.2	10
84	Influence of Topology on the Free Energy and Metric Properties of an Ideal Ring Polymer Confined in a Slit. Macromolecules, 2015, 48, 8675-8680.	2.2	10
85	The scaling behavior of the second virial coefficient of linear and ring polymer. Science China Chemistry, 2016, 59, 619-623.	4.2	10
86	Two-step relaxation and the breakdown of the Stokes-Einstein relation in glass-forming liquids. Physical Review E, 2019, 100, 052607.	0.8	10
87	Statistical field theory for polar fluids. Journal of Chemical Physics, 2018, 149, 124108.	1.2	9
88	Mechanisms of Flow-Induced Polymer Translocation. Macromolecules, 2022, 55, 3602-3612.	2.2	9
89	A priori determination of the region of the three physical volume root loci in the Perturbed-Chain SAFT EOS. Fluid Phase Equilibria, 2017, 434, 152-166.	1.4	8
90	Nonlinear Rheological Behaviors in Polymer Melts after Step Shear. Macromolecules, 2019, 52, 4103-4110.	2.2	8

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91	Nonphysical Behavior in Several Statistical Mechanically Based Equations of State. Industrial & Engineering Chemistry Research, 2019, 58, 1382-1395.	1.8	8
92	Nonelectrostatic Adsorption of Polyelectrolytes and Mediated Interactions between Solid Surfaces. Langmuir, 2021, 37, 5483-5493.	1.6	8
93	Shear Banding in Entangled Polymers: Stress Plateau, Banding Location, and Lever Rule. ACS Macro Letters, 2021, 10, 1517-1523.	2.3	8
94	Coil-to-Globule Transition in Polymeric Solvents. Macromolecules, 2021, 54, 10984-10993.	2.2	8
95	Preferential Ion Adsorption in Blue Energy Applications. ACS Sustainable Chemistry and Engineering, 2021, 9, 9230-9239.	3.2	7
96	On the direct evaluation of the equilibrium distribution of clusters by simulation. II. Journal of Chemical Physics, 2001, 115, 6898-6906.	1.2	6
97	Local-Average Free Volume Correlates with Dynamics in Glass Formers. Journal of Physical Chemistry Letters, 2022, 13, 3957-3964.	2.1	6
98	Improved local lattice Monte Carlo simulation for charged systems. Journal of Chemical Physics, 2018, 148, 114105.	1.2	5
99	A molecularly based theory for electron transfer reorganization energy. Journal of Chemical Physics, 2015, 143, 224502.	1.2	4
100	Molecular-Based Theory for Electron-Transfer Reorganization Energy in Solvent Mixtures. Journal of Physical Chemistry B, 2016, 120, 6373-6382.	1.2	3
101	Variational Methods in Statistical Thermodynamicsâ€"A Pedagogical Introduction. Molecular Modeling and Simulation, 2017, , 1-29.	0.2	3
102	A coarse-grained model of room-temperature ionic liquids between metal electrodes: a molecular dynamics study. Physical Chemistry Chemical Physics, 2022, 24, 11573-11584.	1.3	3
103	Thermodynamics of Electrolyte Solutions Near Charged Surfaces: Constant Surface Charge vs. Constant Surface Potential. Journal of Chemical Physics, 2022, 156, 174704.	1.2	2
104	Chiral Symmetry Breaking and Pattern Formation in Two-Dimensional Films. Materials Research Society Symposia Proceedings, 1992, 292, 235.	0.1	1
105	Challenges and opportunities in polymer theory. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 3445-3447.	2.4	1