Jianzhong Wu

List of Publications by Citations

229 papers	9,534 citations	49 h-index	89 g-index
240 ext. papers	10,478 ext. citations	5.1 avg, IF	6.66 L-index

#	Paper	IF	Citations
229	Anti-icing superhydrophobic coatings. *Langmuir*, **2009**, 25, 12444-8	4	1115
228	Structures of hard-sphere fluids from a modified fundamental-measure theory. *Journal of Chemical Physics*, **2002**, 117, 10156-10164	3.9	550
227	Density functional theory for chemical engineering: From capillarity to soft materials. *AICHE Journal*, **2006**, 52, 1169-1193	3.6	299
226	Density-functional theory for complex fluids. *Annual Review of Physical Chemistry*, **2007**, 58, 85-112	15.7	287
225	Density functional theory for inhomogeneous mixtures of polymeric fluids. *Journal of Chemical Physics*, **2002**, 117, 2368-2376	3.9	284
224	Oscillation of capacitance inside nanopores. *Nano Letters*, **2011**, 11, 5373-7	11.5	240
223	Asphaltene precipitation in crude oils: Theory and experiments. *AICHE Journal*, **2004**, 50, 2552-2570	3.6	204
222	Density-functional theory of spherical electric double layers and zeta potentials of colloidal particles in restricted-primitive-model electrolyte solutions. *Journal of Chemical Physics*, **2004**, 120, 7223-33	3.9	169
221	A fundamental-measure theory for inhomogeneous associating fluids. *Journal of Chemical Physics*, **2002**, 116, 7094-7103	3.9	156
220	Solvent Effect on the Pore-Size Dependence of an Organic Electrolyte Supercapacitor. *Journal of Physical Chemistry Letters*, **2012**, 3, 1727-31	6.4	151
219	Molecular-thermodynamic framework for asphaltene-oil equilibria. *AICHE Journal*, **1998**, 44, 1188-1199	3.6	148
218	Phase behavior of thermally responsive microgel colloids. *Physical Review Letters*, **2003**, 90, 048304	7.4	148
217	A classical density functional theory for interfacial layering of ionic liquids. *Soft Matter*, **2011**, 7, 11222	3.6	143
216	Interaction between like-charged colloidal spheres in electrolyte solutions. *Proceedings of the National Academy of Sciences of the United States of America*, **1998**, 95, 15169-72	11.5	138
215	Phase Equilibria for Systems Containing Hydrocarbons, Water, and Salt: An Extended PengRobinson Equation of State. *Industrial & Engineering Chemistry Research*, **1998**, 37, 1634-1643	3.9	123
214	Computational Insights into Materials and Interfaces for Capacitive Energy Storage. *Advanced Science*, **2017**, 4, 1700059	13.6	122
213	Density functional theory for differential capacitance of planar electric double layers in ionic liquids. *Chemical Physics Letters*, **2011**, 504, 153-158	2.5	112

212	Modeling inhomogeneous van der Waals fluids using an analytical direct correlation function. *Physical Review E*, **2004**, 70, 011201	2.4	109
211	Enhancing the Capacitive Performance of Electric Double-Layer Capacitors with Ionic Liquid Mixtures. *ACS Energy Letters*, **2016**, 1, 21-26	20.1	107
210	Microscopic Insights into the Electrochemical Behavior of Nonaqueous Electrolytes in Electric Double-Layer Capacitors. *Journal of Physical Chemistry Letters*, **2013**, 4, 1260-7	6.4	95
209	Assembly of supertetrahedral T5 copper-indium sulfide clusters into a super-supertetrahedron of infinite order. *Journal of the American Chemical Society*, **2010**, 132, 3283-5	16.4	93
208	Quantum Effects on the Capacitance of Graphene-Based Electrodes. *Journal of Physical Chemistry C* , **2015**, 119, 22297-22303	3.8	92
207	Interparticle Potential and the Phase Behavior of Temperature-Sensitive Microgel Dispersions. *Macromolecules*, **2003**, 36, 440-448	5.5	86
206	Photo-induced ultrafast active ion transport through graphene oxide membranes. *Nature Communications*, **2019**, 10, 1171	17.4	82
205	Selective Charging Behavior in an Ionic Mixture Electrolyte-Supercapacitor System for Higher Energy and Power. *Journal of the American Chemical Society*, **2017**, 139, 18681-18687	16.4	76
204	Molecular thermodynamics of asphaltene precipitation in reservoir fluids. *AICHE Journal*, **2000**, 46, 197-209	3.9	76
203	Density functional theory for semiflexible and cyclic polyatomic fluids. *Journal of Chemical Physics*, **2004**, 121, 4210-20	3.9	75
202	Density functional study of the electric double layer formed by a high density electrolyte. *Journal of Physical Chemistry B*, **2011**, 115, 12911-4	3.4	74
201	A Site Density Functional Theory for Water: Application to Solvation of Amino Acid Side Chains. *Journal of Chemical Theory and Computation*, **2013**, 9, 1896-908	6.4	67
200	Density functional theory for polyelectrolytes near oppositely charged surfaces. *Physical Review Letters*, **2006**, 96, 048302	7.4	67
199	Self-diffusion of methane in single-walled carbon nanotubes at sub- and supercritical conditions. *Langmuir*, **2004**, 20, 3759-65	4	67
198	Density functional theory for planar electric double layers: closing the gap between simple and polyelectrolytes. *Journal of Physical Chemistry B*, **2006**, 110, 7473-84	3.4	66
197	Extended test-particle method for predicting the inter- and intramolecular correlation functions of polymeric fluids. *Journal of Chemical Physics*, **2003**, 118, 3835-3842	3.9	63
196	Density-functional theory for the structures and thermodynamic properties of highly asymmetric electrolyte and neutral component mixtures. *Physical Review E*, **2004**, 70, 031109	2.4	60
195	Modeling the selectivity of activated carbons for efficient separation of hydrogen and carbon dioxide. *Carbon*, **2005**, 43, 1364-1370	10.4	60

194	Surface forces between telechelic brushes revisited: the origin of a weak attraction. *Langmuir*, **2006**, 22, 2712-8	4	59
193	Unusual effects of solvent polarity on capacitance for organic electrolytes in a nanoporous electrode. *Nanoscale*, **2014**, 6, 5545-50	7.7	58
192	Density-functional theory and Monte Carlo simulation for the surface structure and correlation functions of freely jointed Lennard-Jones polymeric fluids. *Journal of Chemical Physics*, **2005**, 122, 174708	3.9	58
191	Microstructure of Block Copolymers near Selective Surfaces: Theoretical Predictions and Configurational-Bias Monte Carlo Simulation. *Macromolecules*, **2005**, 38, 971-978	5.5	57
190	Volume transition and internal structures of small poly(N-isopropylacrylamide) microgels. *Journal of Polymer Science, Part B: Polymer Physics*, **2005**, 43, 849-860	2.6	57
189	A Generic Model for Electric Double Layers in Porous Electrodes. *Journal of Physical Chemistry C*, **2016**, 120, 8704-8710	3.8	57
188	Growth Mechanism of Highly Branched Titanium Dioxide Nanowires via Oriented Attachment. *Crystal Growth and Design*, **2013**, 13, 422-428	3.5	56
187	Structure and Swelling of Grafted Polyelectrolytes: Predictions from a Nonlocal Density Functional Theory. *Macromolecules*, **2007**, 40, 334-343	5.5	56
186	New theoretical method for rapid prediction of solvation free energy in water. *Journal of Physical Chemistry B*, **2011**, 115, 6971-5	3.4	55
185	A density-functional theory for bulk and inhomogeneous Lennard-Jones fluids from the energy route. *Journal of Chemical Physics*, **2003**, 119, 7388-7397	3.9	55
184	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, 16986-91	11.5	53
183	Protein refolding assisted by periodic mesoporous organosilicas. *Langmuir*, **2007**, 23, 5735-9	4	53
182	Crystallization kinetics of thermosensitive colloids probed by transmission spectroscopy. *Langmuir*, **2004**, 20, 8858-64	4	51
181	Structures and correlation functions of multicomponent and polydisperse hard-sphere mixtures from a density functional theory. *Journal of Chemical Physics*, **2004**, 121, 1535-41	3.9	51
180	Kinetic Charging Inversion in Ionic Liquid Electric Double Layers. *Journal of Physical Chemistry Letters*, **2014**, 5, 2195-200	6.4	48
179	Forces between aqueous nonuniformly charged colloids from molecular simulation. *Journal of Chemical Physics*, **2002**, 116, 7733-7743	3.9	48
178	Revisiting density functionals for the primitive model of electric double layers. *Journal of Chemical Physics*, **2014**, 140, 044714	3.9	47
177	Osmotic pressures of aqueous bovine serum albumin solutions at high ionic strength. *Fluid Phase Equilibria*, **1999**, 155, 139-154	2.5	46

176	Vapor–Liquid Equilibria and Interfacial Tensions of Associating Fluids within a Density Functional Theory. *Industrial & Engineering Chemistry Research*, **2005**, 44, 1120-1128	3.9	45
175	Molecular Simulation of Novel Carbonaceous Materials for Hydrogen Storage. *Nano Letters*, **2004**, 4, 1489-1492	11.5	43
174	Hunting ionic liquids with large electrochemical potential windows. *AICHE Journal*, **2019**, 65, 804-810	3.6	43
173	Polyelectrolyte complex coacervation: Effects of concentration asymmetry. *Journal of Chemical Physics*, **2018**, 149, 163303	3.9	42
172	Salting-Out and Salting-In of Polyelectrolyte Solutions: A Liquid-State Theory Study. *Macromolecules*, **2016**, 49, 9720-9730	5.5	42
171	Mixed Ionic Liquid Improves Electrolyte Dynamics in Supercapacitors. *Journal of Physical Chemistry C*, **2018**, 122, 10476-10481	3.8	40
170	Effect of the range of attractive interactions on crystallization, metastable phase transition, and percolation in colloidal dispersions. *Physical Review E*, **2003**, 68, 011403	2.4	40
169	Orientation-Averaged Pair Potentials between Dipolar Proteins or Colloids. *Journal of Physical Chemistry B*, **2002**, 106, 2714-2720	3.4	40
168	A hybrid method for predicting the microstructure of polymers with complex architecture: combination of single-chain simulation with density functional theory. *Journal of Chemical Physics*, **2006**, 124, 164904	3.9	39
167	Layering, condensation, and evaporation of short chains in narrow slit pores. *Journal of Chemical Physics*, **2005**, 122, 224701	3.9	39
166	Density Functional Methods for Fast Screening of Metal–Organic Frameworks for Hydrogen Storage. *Journal of Physical Chemistry C*, **2015**, 119, 5374-5385	3.8	38
165	Monte Carlo simulation for the double layer structure of an ionic liquid using a dimer model: a comparison with the density functional theory. *Journal of Physical Chemistry B*, **2012**, 116, 10364-70	3.4	38
164	Electrostatic origins of polyelectrolyte adsorption: Theory and Monte Carlo simulations. *Journal of Chemical Physics*, **2010**, 133, 044906	3.9	38
163	Pairwise-additive hydrophobic effect for alkanes in water. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 9512-5	11.5	38
162	Time-dependent density functional theory for ion diffusion in electrochemical systems. *Journal of Physics Condensed Matter*, **2014**, 26, 284102	1.8	37
161	Interaction between oppositely charged micelles or globular proteins. *Physical Review E*, **2000**, 62, 5273-80	2.4	37
160	High-Throughput Prediction of the Hydration Free Energies of Small Molecules from a Classical Density Functional Theory. *Journal of Physical Chemistry Letters*, **2013**, 4, 3687-3691	6.4	36
159	Chemical and Radiation Stability of Ionic Liquids: A Computational Screening Study. *Journal of Physical Chemistry C*, **2016**, 120, 27757-27767	3.8	35

158	Ionic effects in collapse of polyelectrolyte brushes. *Journal of Physical Chemistry B*, **2008**, 112, 7713-20	3.4	35
157	Structural transitions of confined model proteins: molecular dynamics simulation and experimental validation. *Biophysical Journal*, **2006**, 90, 3224-38	2.9	35
156	Insights from machine learning of carbon electrodes for electric double layer capacitors. *Carbon*, **2020**, 157, 147-152	10.4	34
155	Excess-entropy scaling for gas diffusivity in nanoporous materials. *Langmuir*, **2013**, 29, 12997-3002	4	33
154	Osmotic pressure and packaging structure of caged DNA. *Biophysical Journal*, **2008**, 94, 737-46	2.9	33
153	Time-dependent density functional theory for the charging kinetics of electric double layer containing room-temperature ionic liquids. *Journal of Chemical Physics*, **2016**, 145, 204707	3.9	33
152	A comprehensive analysis of the BET area for nanoporous materials. *AICHE Journal*, **2018**, 64, 286-293	3.6	32
151	Electrochemical properties of the double layer of an ionic liquid using a dimer model electrolyte and density functional theory. *Journal of Physical Chemistry B*, **2012**, 116, 2520-5	3.4	32
150	A modified fundamental measure theory for spherical particles in microchannels. *Journal of Chemical Physics*, **2003**, 119, 2288-2295	3.9	32
149	Surface-induced phase transitions in ultrathin films of block copolymers. *Journal of Chemical Physics* , **2005**, 122, 194703	3.9	31
148	Nitrogen-doped porous aromatic frameworks for enhanced CO2 adsorption. *Journal of Colloid and Interface Science*, **2015**, 438, 191-195	9.3	30
147	Application of density functional theory to study the double layer of an electrolyte with an explicit dimer model for the solvent. *Journal of Physical Chemistry B*, **2012**, 116, 11356-61	3.4	30
146	Density functional theory for predicting polymeric forces against surface fouling. *Soft Matter*, **2010**, 6, 4631	3.6	30
145	Classical density functional theory for methane adsorption in metal-organic framework materials. *AICHE Journal*, **2015**, 61, 3012-3021	3.6	29
144	The tail effect on the shape of an electrical double layer differential capacitance curve. *Journal of Chemical Physics*, **2013**, 138, 144704	3.9	29
143	Toward a Quantitative Theory of Ultrasmall Liquid Droplets and Vapor□liquid Nucleation. *Industrial & Engineering Chemistry Research*, **2008**, 47, 4988-4995	3.9	29
142	A self-consistent approach for modelling the interfacial properties and phase diagrams of Yukawa, Lennard-Jones and square-well fluids. *Molecular Physics*, **2004**, 102, 1479-1488	1.7	29
141	Boosting the Performance of Ionic-Liquid-Based Supercapacitors with Polar Additives. *Journal of Physical Chemistry C*, **2016**, 120, 24041-24047	3.8	29

140	Thermodynamic and Structural Evidence for Reduced Hydrogen Bonding among Water Molecules near Small Hydrophobic Solutes. *Journal of Physical Chemistry B*, **2015**, 119, 12108-16	3.4	28
139	Impurity Effects on Charging Mechanism and Energy Storage of Nanoporous Supercapacitors. *Journal of Physical Chemistry C*, **2017**, 121, 14066-14072	3.8	27
138	Influence of anisotropic ion shape on structure and capacitance of an electric double layer: a Monte Carlo and density functional study. *Journal of Chemical Physics*, **2013**, 139, 054703	3.9	27
137	Communication: Long-range angular correlations in liquid water. *Journal of Chemical Physics*, **2013**, 139, 041103	3.9	27
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135	Theoretical study of cooperativity in multivalent polymers for colloidal stabilization. *Langmuir*, **2005**, 21, 9786-91	4	26
134	A theoretical study for nanoparticle partitioning in the lamellae of diblock copolymers. *Journal of Chemical Physics*, **2008**, 128, 074901	3.9	25
133	Non-Negligible Roles of Pore Size Distribution on Electroosmotic Flow in Nanoporous Materials. *ACS Nano*, **2019**, 13, 8185-8192	16.7	24
132	A contact-corrected density functional theory for electrolytes at an interface. *Physical Chemistry Chemical Physics*, **2014**, 16, 3934-8	3.6	24
131	Differential Heat of Adsorption and Isosteres. *Langmuir*, **2017**, 33, 996-1003	4	23
130	Molecular Theory for Electrokinetic Transport in pH-Regulated Nanochannels. *Journal of Physical Chemistry Letters*, **2014**, 5, 3015-20	6.4	23
129	Electrostatic regulation of genome packaging in human hepatitis B virus. *Biophysical Journal*, **2009**, 96, 3065-73	2.9	23
128	Graphene oxide enabled long-term enzymatic transesterification in an anhydrous gas flux. *Nature Communications*, **2019**, 10, 2684	17.4	22
127	Lectin corona enhances enzymatic catalysis on the surface of magnetic nanoparticles. *Biochemical Engineering Journal*, **2018**, 129, 26-32	4.2	22
126	Density functional theory study of the capacitance of single file ions in a narrow cylinder. *Journal of Colloid and Interface Science*, **2015**, 449, 130-5	9.3	22
125	Melting Kinetics of Thermally Responsive Microgel Crystals. *Macromolecules*, **2007**, 40, 9544-9548	5.5	22
124	Potential distribution theorem for the polymer-induced depletion between colloidal particles. *Journal of Chemical Physics*, **2007**, 126, 144904	3.9	22
123	Overcharging of nanoparticles in electrolyte solutions. *Langmuir*, **2004**, 20, 7333-8	4	22

122	A new perturbation method for electrolyte solutions based on MSA. *Fluid Phase Equilibria*, **1994**, 101, 121-136	2.5	22
121	Can ionophobic nanopores enhance the energy storage capacity of electric-double-layer capacitors containing nonaqueous electrolytes?. *Journal of Physics Condensed Matter*, **2016**, 28, 414005	1.8	20
120	Molecular density functional theory for multiscale modeling of hydration free energy. *Chemical Engineering Science*, **2015**, 126, 370-382	4.4	19
119	Ionic Liquid Mixture Expands the Potential Window and Capacitance of a Supercapacitor in Tandem. *Journal of Physical Chemistry C*, **2018**, 122, 18304-18310	3.8	19
118	Ion association at discretely-charged dielectric interfaces: Giant charge inversion. *Journal of Chemical Physics*, **2017**, 147, 024703	3.9	19
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116	Membrane-confined liquid-liquid phase separation toward artificial organelles. *Science Advances*, **2021**, 7,	14.3	19
115	Capacitive Energy Extraction by Few-Layer Graphene Electrodes. *Journal of Physical Chemistry C*, **2017**, 121, 14010-14018	3.8	18
114	Hybrid MC-DFT method for studying multidimensional entropic forces. *Journal of Physical Chemistry B*, **2011**, 115, 1450-60	3.4	18
113	Self-consistent equations governing the dynamics of nonequilibrium colloidal systems. *Journal of Chemical Physics*, **2011**, 134, 054514	3.9	18
112	An efficient method for accurate evaluation of the site□site direct correlation functions of molecular fluids. *Molecular Physics*, **2011**, 109, 2553-2564	1.7	18
111	A perturbative density functional theory for square-well fluids. *Journal of Chemical Physics*, **2011**, 134, 174702	3.9	18
110	Seeking metal□organic frameworks for methane storage in natural gas vehicles. *Adsorption*, **2015**, 21, 499-507	2.6	17
109	Equation of State for the Phase Behavior of Carbon Dioxide□Polymer Systems. *Industrial & Engineering Chemistry Research*, **2010**, 49, 7678-7684	3.9	17
108	Cluster formation and bulk phase behavior of colloidal dispersions. *Physical Review E*, **2009**, 80, 021401	2.4	17
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100	On the hydrophilicity of electrodes for capacitive energy extraction. *Journal of Physics Condensed Matter*, **2016**, 28, 464008	1.8	15
99	Electric double layer capacitance for ionic liquids in nanoporous electrodes: Effects of pore size and ion composition. *Journal of Molecular Liquids*, **2018**, 270, 145-150	6	15
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97	Non-scaling behavior of electroosmotic flow in voltage-gated nanopores. *Physical Chemistry Chemical Physics*, **2016**, 19, 450-457	3.6	14
96	Concanavalin A Coated Activated Carbon for High Performance Enzymatic Catalysis. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 90-96	8.3	14
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94	Modeling selective ion adsorption into cylindrical nanopores. *Chemical Physics Letters*, **2018**, 709, 116-124	2.5	14
93	Shape effect on nanoparticle solvation: a comparison of morphometric thermodynamics and microscopic theories. *Langmuir*, **2012**, 28, 6997-7006	4	14
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91	Separation of long DNA molecules through cleavage of hydrogen bonds under a stretching force. *Applied Physics Letters*, **2007**, 91, 113902	3.4	14
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88	Fast prediction of hydration free energies for SAMPL4 blind test from a classical density functional theory. *Journal of Computer-Aided Molecular Design*, **2014**, 28, 299-304	4.2	13
87	Structure and capacitance of an electric double layer of an asymmetric valency dimer electrolyte: A comparison of the density functional theory with Monte Carlo simulations. *Journal of Molecular Liquids*, **2017**, 228, 236-242	6	13

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85	Data-Driven Approach to Understanding the In-Operando Performance of Heteroatom-Doped Carbon Electrodes. *ACS Applied Energy Materials*, **2020**, 3, 5993-6000	6.1	12
84	Toward high-throughput predictions of the hydration free energies of small organic molecules from first principles. *Fluid Phase Equilibria*, **2016**, 407, 304-313	2.5	11
83	A molecular thermodynamic model for the stability of hepatitis B capsids. *Journal of Chemical Physics*, **2014**, 140, 235101	3.9	11
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65	Understanding surface charge regulation in silica nanopores. *Physical Chemistry Chemical Physics*, **2020**, 22, 15373-15380	3.6	8
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61	Gaussian fluctuations in tethered DNA chains. *Journal of Chemical Physics*, **2011**, 134, 065103	3.9	8
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58	Kinetics of CO diffusion in human carbonic anhydrase: a study using molecular dynamics simulations and the Markov-state model. *Physical Chemistry Chemical Physics*, **2017**, 19, 11690-11697	3.6	7
57	Cation Molecular Structure Affects Mobility and Transport of Electrolytes in Porous Carbons. *Journal of the Electrochemical Society*, **2019**, 166, A507-A514	3.9	7
56	A molecular theory for predicting the thermodynamic efficiency of electrokinetic energy conversion in slit nanochannels. *Journal of Chemical Physics*, **2018**, 148, 084701	3.9	7
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47	Formation of lamellar structures from spherical particles. *Journal of Chemical Physics*, **2009**, 130, 165102	3.9	6
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