

Changwoo Do

List of Publications by Year in descending order

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104
papers

1,935
citations

257101

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301761

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109
all docs

109
docs citations

109
times ranked

2925
citing authors

#	ARTICLE	IF	CITATIONS
1	Hysteresis-Free Nanoparticle-Reinforced Hydrogels. <i>Advanced Materials</i> , 2022, 34, e2108243.	11.1	92
2	Surpassing the stiffness-extensibility trade-off of elastomers via mastering the hydrogen-bonding clusters. <i>Matter</i> , 2022, 5, 237-252.	5.0	40
3	Variable-Temperature Scattering and Spectroscopy Characterizations for Temperature-Dependent Solution Assembly of PffBT4T-Based Conjugated Polymers. <i>ACS Applied Polymer Materials</i> , 2022, 4, 3023-3033.	2.0	14
4	Effect of cholesterol on nano-structural alteration of light-activatable liposomes via laser irradiation: Small angle neutron scattering study. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2022, 641, 128548.	2.3	5
5	Diffusion characteristics of water molecules in a lamellar structure formed by triblock copolymers. <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 8015-8021.	1.3	0
6	Small angle scattering of diblock copolymers profiled by machine learning. <i>Journal of Chemical Physics</i> , 2022, 156, 131101.	1.2	3
7	Ion Atmosphere of Wormlike Micelles Profiled by Contrast Variation Small-Angle Neutron Scattering. <i>ACS Macro Letters</i> , 2022, 11, 66-71.	2.3	0
8	SANS characterization of time dependent, slow molecular exchange in an SDS micellar system. <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 16988-16996.	1.3	2
9	Impact of Two Water-Miscible Ionic Liquids on the Temperature-Dependent Self-Assembly of the (EO) ₆ -(PO) ₃₄ -(EO) ₆ Block Copolymer. <i>ACS Omega</i> , 2022, 7, 19474-19483.	1.6	2
10	drtsans: The data reduction toolkit for small-angle neutron scattering at Oak Ridge National Laboratory. <i>SoftwareX</i> , 2022, 19, 101101.	1.2	32
11	CENTAUR-The small- and wide-angle neutron scattering diffractometer/spectrometer for the Second Target Station of the Spallation Neutron Source. <i>Review of Scientific Instruments</i> , 2022, 93, .	0.6	9
12	EXPANSE: A time-of-flight EXPanded Angle Neutron Spin Echo spectrometer at the Second Target Station of the Spallation Neutron Source. <i>Review of Scientific Instruments</i> , 2022, 93, .	0.6	4
13	Machine learning for neutron scattering at ORNL [*] . <i>Machine Learning: Science and Technology</i> , 2021, 2, 023001.	2.4	9
14	An exact inversion method for extracting orientation ordering by small-angle scattering. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 4120-4132.	1.3	4
15	Effect of sticker clustering on the dynamics of associative networks. <i>Soft Matter</i> , 2021, 17, 8960-8972.	1.2	12
16	Internal structure of ultralow-crosslinked microgels: From uniform deswelling to phase separation. <i>Physical Review E</i> , 2021, 103, 022614.	0.8	4
17	Kinetically Controlled Formation of Semi-crystalline Conjugated Polymer Nanostructures. <i>Macromolecules</i> , 2021, 54, 2162-2177.	2.2	1
18	Deuteration and Polymers: Rich History with Great Potential. <i>Macromolecules</i> , 2021, 54, 3555-3584.	2.2	31

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19	Self-Assembly of 2D Gold Nanoparticle Superlattice in a Polymer Vesicle Layer Driven by Hydrophobic Interaction. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 6736-6743.	2.1	4
20	Spatial correlations of entangled polymer dynamics. <i>Physical Review E</i> , 2021, 104, 024503.	0.8	5
21	Reduced Internal Friction by Osmolyte Interaction in Intrinsically Disordered Myelin Basic Protein. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 292-296.	2.1	10
22	Deep learning-based super-resolution for small-angle neutron scattering data: attempt to accelerate experimental workflow. <i>MRS Communications</i> , 2020, 10, 11-17.	0.8	12
23	Determining population densities in bimodal micellar solutions using contrast-variation small angle neutron scattering. <i>Journal of Chemical Physics</i> , 2020, 153, 184902.	1.2	3
24	Decoupling Poly(3-alkylthiophenes)™ Backbone and Side-Chain Conformation by Selective Deuteration and Neutron Scattering. <i>Macromolecules</i> , 2020, 53, 11142-11152.	2.2	26
25	Fingerprinting the nonlinear rheology of a liquid crystalline polyelectrolyte. <i>Rheologica Acta</i> , 2020, 59, 727-743.	1.1	4
26	Spatial correlation functions of paracrystals with radial symmetry. <i>Physical Review E</i> , 2020, 102, 032110.	0.8	0
27	Revealing the Influence of Salts on the Hydration Structure of Ionic SDS Micelles by Contrast-Variation Small-Angle Neutron Scattering. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 7334-7341.	2.1	10
28	Noncanonical Head-to-Head Hairpin DNA Dimerization Is Essential for the Synthesis of Orange Emissive Silver Nanoclusters. <i>ACS Nano</i> , 2020, 14, 8697-8706.	7.3	36
29	Quantitative examination of a fundamental assumption in small-angle neutron scattering studies of deformed polymer melts. <i>Polymer</i> , 2020, 204, 122698.	1.8	7
30	Complexation of Pluronic L62 (EO ₆) ₃ (PO ₃₄) ₂ (EO ₆) ₂ /aerosol-OT (sodium bis(2-ethylhexyl)sulfosuccinate) in aqueous solutions investigated by small angle neutron scattering. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 12524-12531.	1.3	3
31	Small Angle Scattering Data Analysis Assisted by Machine Learning Methods. <i>MRS Advances</i> , 2020, 5, 1577-1584.	0.5	16
32	Structural properties of the evolution of CTAB/NaSal micelles investigated by SANS and rheometry. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 18346-18351.	1.3	21
33	The role of composition in the structure and water-binding in alkali-silica reaction sol and gel. <i>Cement and Concrete Research</i> , 2019, 124, 105814.	4.6	5
34	Determining Gyration Tensor of Orienting Macromolecules through Their Scattering Signature. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 3978-3984.	2.1	11
35	Dynamic Equivalence between Soft Star Polymers and Hard Spheres. <i>ACS Macro Letters</i> , 2019, 8, 1467-1473.	2.3	5
36	Iridescence in nematics: Photonic liquid crystals of nanoplates in absence of long-range periodicity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 18322-18327.	3.3	43

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37	Deciphering Melatonin-Stabilized Phase Separation in Phospholipid Bilayers. <i>Langmuir</i> , 2019, 35, 12236-12245.	1.6	25
38	Oriental Distribution Function of Aligned Elongated Molecules and Particulates Determined from Their Scattering Signature. <i>ACS Macro Letters</i> , 2019, 8, 1257-1262.	2.3	9
39	Self-Assembly of Temperature Sensitive Unilamellar Vesicles by a Blend of Block Copolymers in Aqueous Solution. <i>Polymers</i> , 2019, 11, 63.	2.0	7
40	Polyamidoxime chain length drives emergent metal-binding phenomena. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 554-560.	1.3	4
41	Self-Assembled Nanostructure of C60-Amphiphilic Molecules Complex in Aqueous Solution: A Small Angle Neutron Scattering Study. <i>Journal of Nanoscience and Nanotechnology</i> , 2019, 19, 6316-6320.	0.9	0
42	Influence of side chain isomerism on the rigidity of poly(3-alkylthiophenes) in solutions revealed by neutron scattering. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 7745-7749.	1.3	15
43	Water-Redispersible and Highly Stable Gold Nanoparticles Permanently Capped by Charge-Controllable Surfactants for Potential Medical Applications. <i>ACS Applied Nano Materials</i> , 2019, 2, 7924-7932.	2.4	6
44	Potentials with small-angle neutron scattering technique for understanding structure-property relation of 3D-printed materials. <i>Polymer Engineering and Science</i> , 2019, 59, E65.	1.5	5
45	Strain heterogeneity in sheared colloids revealed by neutron scattering. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 6050-6054.	1.3	0
46	The suite of small-angle neutron scattering instruments at Oak Ridge National Laboratory. <i>Journal of Applied Crystallography</i> , 2018, 51, 242-248.	1.9	115
47	Silica-Conjugated Polymer Hybrid Fluorescent Nanoparticles: Preparation by Surface-Initiated Polymerization and Spectroscopic Studies. <i>Journal of Physical Chemistry C</i> , 2018, 122, 6963-6975.	1.5	14
48	Evaluation of molecular volume change of block copolymer depending on temperature: A SANS study. <i>Physica B: Condensed Matter</i> , 2018, 551, 179-183.	1.3	1
49	Scaling Behavior of Anisotropy Relaxation in Deformed Polymers. <i>Physical Review Letters</i> , 2018, 121, 117801.	2.9	13
50	Small-angle neutron scattering measurements of β -phase deuteride (hydride) precipitates in Zircaloy 4. <i>Journal of Applied Crystallography</i> , 2018, 51, 768-780.	1.9	6
51	Methyl quantum tunneling in ionic liquid [DMIm][TFSI] facilitated by Bis(trifluoromethane)sulfonimide lithium salt. <i>Scientific Reports</i> , 2018, 8, 10354.	1.6	5
52	Ion Dynamics in Ionic-Liquid-Based Li-Ion Electrolytes Investigated by Neutron Scattering and Dielectric Spectroscopy. <i>ChemSusChem</i> , 2018, 11, 3512-3523.	3.6	22
53	Aggregation of cyclic polypeptoids bearing zwitterionic end-groups with attractive dipole-dipole and solvophobic interactions: a study by small-angle neutron scattering and molecular dynamics simulation. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 14388-14400.	1.3	10
54	Effect of nucleoside analogue antimetabolites on the structure of PEO-PPO-PEO micelles investigated by SANS. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 15686-15692.	1.3	4

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55	Controlling the Intermediate Structure of an Ionic Liquid for f-Block Element Separations. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 2049-2054.	2.1	8
56	Charge segregation in weakly ionized microgels. <i>Physical Review E</i> , 2017, 95, 012608.	0.8	13
57	Small-angle neutron scattering study of a dense microemulsion system formed with an ionic liquid. <i>Soft Matter</i> , 2017, 13, 7154-7160.	1.2	7
58	Reconstruction of three-dimensional anisotropic structure from small-angle scattering experiments. <i>Physical Review E</i> , 2017, 96, 022612.	0.8	16
59	Thermoreversible Morphology and Conductivity of a Conjugated Polymer Network Embedded in Block Copolymer Self-Assemblies. <i>Small</i> , 2016, 12, 4857-4864.	5.2	5
60	Pronounced Dielectric and Hydration/Dehydration Behaviors of Monopolar Poly(<i>N</i> -alkylglycine)s in Aqueous Solution. <i>Journal of Physical Chemistry B</i> , 2016, 120, 9978-9986.	1.2	2
61	Spatial Distributions of Guest Molecule and Hydration Level in Dendrimer-Based Guest-Host Complex. <i>ACS Macro Letters</i> , 2016, 5, 1004-1008.	2.3	4
62	Anomalous Self-Assembled Phase Behavior of Block Copolymer Blended with Organic Derivative Depending on Temperature. <i>Macromolecules</i> , 2016, 49, 6541-6548.	2.2	5
63	Reduction-Triggered Self-Assembly of Nanoscale Molybdenum Oxide Molecular Clusters. <i>Journal of the American Chemical Society</i> , 2016, 138, 10623-10629.	6.6	31
64	Functionalization of Single-walled Carbon Nanotubes with Thermo-reversible Block Copolymers and Characterization by Small-angle Neutron Scattering. <i>Journal of Visualized Experiments</i> , 2016, , .	0.2	2
65	Amidine-Mediated Zwitterionic Ring-Opening Polymerization of <i>N</i> -Alkyl <i>N</i> -Carboxyanhydride: Mechanism, Kinetics, and Architecture Elucidation. <i>Macromolecules</i> , 2016, 49, 1163-1171.	2.2	49
66	Segregation of mass at the periphery of <i>N</i> -isopropylacrylamide-co-acrylic-acid microgels at high temperatures. <i>Physical Review E</i> , 2015, 92, 030302.	0.8	11
67	Dynamics of Water Associated with Lithium Ions Distributed in Polyethylene Oxide. <i>Physical Review Letters</i> , 2015, 115, 198301.	2.9	14
68	Effects of configurational changes on molecular dynamics in polyvinylidene fluoride and poly(vinylidene fluoride-trifluoroethylene) ferroelectric polymers. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	3
69	Tunable Encapsulation Structure of Block Copolymer Coated Single-Walled Carbon Nanotubes in Aqueous Solution. <i>Macromolecules</i> , 2015, 48, 3475-3480.	2.2	13
70	Correlating high power conversion efficiency of PTB7:PC ₇₁ BM inverted organic solar cells with nanoscale structures. <i>Nanoscale</i> , 2015, 7, 15576-15583.	2.8	54
71	Corrections for the geometric distortion of the tube detectors on SANS instruments at ORNL. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2015, 775, 63-70.	0.7	10
72	Nanostructure enhanced ionic transport in fullerene reinforced solid polymer electrolytes. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 8266-8275.	1.3	13

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73	Phosphatidylinositol 4,5-Bisphosphate Clusters the Cell Adhesion Molecule CD44 and Assembles a Specific CD44-Ezrin Heterocomplex, as Revealed by Small Angle Neutron Scattering. <i>Journal of Biological Chemistry</i> , 2015, 290, 6639-6652.	1.6	29
74	Controlling molecular ordering in solution-state conjugated polymers. <i>Nanoscale</i> , 2015, 7, 15134-15141.	2.8	15
75	Long wavelength undulations dominate dynamics in large surfactant membrane patches. <i>Nanoscale</i> , 2015, 7, 2578-2586.	2.8	13
76	A scattering function of star polymers including excluded volume effects. <i>Journal of Applied Crystallography</i> , 2014, 47, 1901-1905.	1.9	3
77	Dynamical Threshold of Diluteness of Soft Colloids. <i>ACS Macro Letters</i> , 2014, 3, 1271-1275.	2.3	7
78	Understanding inelastically scattered neutrons from water on a time-of-flight small-angle neutron scattering (SANS) instrument. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2014, 737, 42-46.	0.7	24
79	Atomistic Structure of Bottlebrush Polymers: Simulations and Neutron Scattering Studies. <i>Macromolecules</i> , 2014, 47, 5808-5814.	2.2	42
80	Influence of Molecular Solvation on the Conformation of Star Polymers. <i>ACS Macro Letters</i> , 2014, 3, 458-461.	2.3	1
81	Structural Evolution of Polylactide Molecular Bottlebrushes: Kinetics Study by Size Exclusion Chromatography, Small Angle Neutron Scattering, and Simulations. <i>ACS Macro Letters</i> , 2014, 3, 862-866.	2.3	26
82	Understanding How Processing Additives Tune the Nanoscale Morphology of High Efficiency Organic Photovoltaic Blends: From Casting Solution to Spin-Cast Thin Film. <i>Advanced Functional Materials</i> , 2014, 24, 6647-6657.	7.8	39
83	Poly(3-hexylthiophene) Molecular Bottlebrushes via Ring-Opening Metathesis Polymerization: Macromolecular Architecture Enhanced Aggregation. <i>ACS Macro Letters</i> , 2013, 2, 761-765.	2.3	48
84	$\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \rangle \langle \text{mml:msup} \rangle \langle \text{mml:mi} \rangle \text{Li} \langle \text{mml:mi} \rangle \langle \text{mml:mo} \rangle + \langle \text{mml:mo} \rangle \langle \text{mml:mi} \rangle \langle \text{mml:mo} \rangle \rangle \langle \text{mml:math} \rangle$ Transport in Poly(Ethylene Oxide) Based Electrolytes: Neutron Scattering, Dielectric Spectroscopy, and Molecular Dynamics Simulations. <i>Physical Review Letters</i> , 2013, 111, 018301.	2.9	71
85	Equilibrium structure of a triblock copolymer system revealed by mesoscale simulation and neutron scattering. <i>Physica B: Condensed Matter</i> , 2013, 430, 87-94.	1.3	2
86	Single-walled carbon nanotube induced re-entrant hexagonal phases in a Pluronic block copolymer system. <i>Soft Matter</i> , 2013, 9, 3050.	1.2	28
87	Polymer Chain Shape of Poly(3-alkylthiophenes) in Solution Using Small-Angle Neutron Scattering. <i>Macromolecules</i> , 2013, 46, 1899-1907.	2.2	197
88	Charge-Dependent Dynamics of a Polyelectrolyte Dendrimer and Its Correlation with Invasive Water. <i>Journal of the American Chemical Society</i> , 2013, 135, 5111-5117.	6.6	12
89	Hydration forces between surfaces of surfactant coated single-walled carbon nanotubes. <i>Journal of Chemical Physics</i> , 2013, 138, 114701.	1.2	4
90	Highly ordered superstructures of single wall carbon nanotube-liposome complexes. <i>Soft Matter</i> , 2012, 8, 9073.	1.2	13

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91	Structured water in polyelectrolyte dendrimers: Understanding small angle neutron scattering results through atomistic simulation. <i>Journal of Chemical Physics</i> , 2012, 136, 144901.	1.2	21
92	Conformational effect on small angle neutron scattering behavior of interacting polyelectrolyte solutions: A perspective of integral equation theory. <i>Journal of Chemical Physics</i> , 2012, 137, 024907.	1.2	3
93	Molecular dynamics and neutron scattering study of the dependence of polyelectrolyte dendrimer conformation on counterion behavior. <i>Journal of Chemical Physics</i> , 2012, 137, 064902.	1.2	7
94	Single-Walled Carbon Nanotube-Induced Lyotropic Phase Behavior of a Polymeric System. <i>Macromolecules</i> , 2012, 45, 986-992.	2.2	13
95	Spatial distribution of intra-molecular water and polymeric components in polyelectrolyte dendrimers revealed by small angle scattering investigations. <i>Journal of Chemical Physics</i> , 2011, 135, 144903.	1.2	16
96	Thermal Fluctuation and Elasticity of Lipid Vesicles Interacting with Pore-Forming Peptides. <i>Physical Review Letters</i> , 2010, 105, 038101.	2.9	75
97	SANS Investigation of Selectively Distributed Single-Walled Carbon Nanotubes in a Polymeric Lamellar Phase. <i>Macromolecules</i> , 2010, 43, 5411-5416.	2.2	15
98	Thermally Switchable One- and Two-Dimensional Arrays of Single-Walled Carbon Nanotubes in a Polymeric System. <i>Journal of the American Chemical Society</i> , 2009, 131, 16568-16572.	6.6	29
99	Highly Ordered Self-Assembly of 1D Nanoparticles in Phospholipids Driven by Curvature and Electrostatic Interaction. <i>Journal of the American Chemical Society</i> , 2009, 131, 7456-7460.	6.6	13
100	Subdomain Structures of Lamellar and Reverse Hexagonal Pluronic Ternary Systems Investigated by Small Angle Neutron Scattering. <i>Macromolecules</i> , 2009, 42, 2645-2650.	2.2	11
101	Charged Rod-Like Nanoparticles Assisting Single-Walled Carbon Nanotube Dispersion in Water. <i>Advanced Functional Materials</i> , 2008, 18, 2685-2691.	7.8	32
102	Organic Solvent-Redispersible Isolated Single Wall Carbon Nanotubes Coated by in-Situ Polymerized Surfactant Monolayer. <i>Macromolecules</i> , 2008, 41, 3261-3266.	2.2	35
103	Water-Redispersible Isolated Single-Walled Carbon Nanotubes Fabricated by In-Situ Polymerization of Micelles. <i>Advanced Materials</i> , 2007, 19, 929-933.	11.1	80
104	Reciprocal space neutron imaging. <i>Physica B: Condensed Matter</i> , 2006, 385-386, 1402-1404.	1.3	3