Zhisen Zhang

List of Publications by Year
in descending order

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59 papers	1,620 citations	394421 19 h-index	315739 38 g-index
59 all docs	59 docs citations	59 times ranked	1885 citing authors

#	Article	IF	Citations
1	Control of ice nucleation: freezing and antifreeze strategies. Chemical Society Reviews, 2018, 47, 7116-7139.	38.1	215
2	Repair of tooth enamel by a biomimetic mineralization frontier ensuring epitaxial growth. Science Advances, 2019, 5, eaaw9569.	10.3	168
3	Crosslinking ionic oligomers as conformable precursors to calcium carbonate. Nature, 2019, 574, 394-398.	27.8	166
4	Shape-preserving amorphous-to-crystalline transformation of CaCO ₃ revealed by in situ TEM. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 3397-3404.	7.1	97
5	Na⁺ and K⁺ ion selectivity by size-controlled biomimetic graphene nanopores. Nanoscale, 2014, 6, 10666-10672.	5.6	89
6	Grain-Size-Controlled Mechanical Properties of Polycrystalline Monolayer MoS₂. Nano Letters, 2018, 18, 1543-1552.	9.1	82
7	Effects of Graphene Nanopore Geometry on DNA Sequencing. Journal of Physical Chemistry Letters, 2014, 5, 1602-1607.	4.6	54
8	Mesoâ€Functionalization of Silk Fibroin by Upconversion Fluorescence and Near Infrared In Vivo Biosensing. Advanced Functional Materials, 2017, 27, 1700628.	14.9	48
9	Nanotube-chirality-controlled tensile characteristics in coiled carbon metastructures. Carbon, 2018, 133, 335-349.	10.3	37
10	Nature-inspired entwined coiled carbon mechanical metamaterials: molecular dynamics simulations. Nanoscale, 2018, 10, 15641-15653.	5.6	37
11	DNA sequencing by two-dimensional materials: As theoretical modeling meets experiments. Biosensors and Bioelectronics, 2017, 89, 280-292.	10.1	35
12	Mechanical Properties of Methane Hydrate: Intrinsic Differences from Ice. Journal of Physical Chemistry C, 2018, 122, 29081-29093.	3.1	31
13	Fabrication of Crack-Free Photonic Crystal Films on Superhydrophobic Nanopin Surface. ACS Applied Materials & Interfaces, 2017, 9, 22037-22041.	8.0	29
14	Computer simulation of water desalination through boron nitride nanotubes. Physical Chemistry Chemical Physics, 2017, 19, 30031-30038.	2.8	28
15	Role of Guest Molecules in the Mechanical Properties of Clathrate Hydrates. Crystal Growth and Design, 2018, 18, 6729-6741.	3.0	28
16	Morphology-Controlled Tensile Mechanical Characteristics in Graphene Allotropes. ACS Omega, 2017, 2, 3977-3988.	3.5	26
17	Topology and polarity of dislocation cores dictate the mechanical strength of monolayer MoS2. Applied Materials Today, 2019, 15, 34-42.	4.3	24
18	Morphology- and dehydrogenation-controlled mechanical properties in diamond nanothreads. Carbon, 2017, 124, 9-22.	10.3	22

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19	Enhancing the specificity of polymerase chain reaction by graphene oxide through surface modification: zwitterionic polymer is superior to other polymers with different charges. International Journal of Nanomedicine, 2016, Volume 11, 5989-6002.	6.7	21
20	Steered molecular dynamics study of inhibitor binding in the internal binding site in dehaloperoxidase-hemoglobin. Biophysical Chemistry, 2016, 211, 28-38.	2.8	20
21	Strengthening and Weakening by Dislocations in Monolayer MoS₂. Chemistry of Materials, 2021, 33, 8758-8767.	6.7	19
22	Anomalous thermal stability in supergiant onion-like carbon fullerenes. Carbon, 2018, 138, 243-256.	10.3	18
23	Mechanical Properties of CH₄â€“CO₂ Heteroclathrate Hydrates. Energy & Fuels, 2020, 34, 14368-14378.	5.1	18
24	Theoretical studies on the dynamics of DNA fragment translocation through multilayer graphene nanopores. RSC Advances, 2014, 4, 50494-50502.	3.6	17
25	Controlling Metalâ€“Organic Framework/ZnO Heterostructure Kinetics through Selective Ligand Binding to ZnO Surface Steps. Chemistry of Materials, 2020, 32, 6666-6675.	6.7	16
26	Role of nanotube chirality on the mechanical characteristics of pillared graphene. Mechanics of Materials, 2021, 162, 104035.	3.2	16
27	On the loading mechanism of ssDNA into carbon nanotubes. RSC Advances, 2015, 5, 56896-56903.	3.6	15
28	Carbon nanotubes kirigami mechanical metamaterials. Physical Chemistry Chemical Physics, 2017, 19, 11032-11042.	2.8	15
29	Efficient mechanical modulation of the phonon thermal conductivity of Mo₆S₆ nanowires. Nanoscale, 2022, 14, 3078-3086.	5.6	15
30	Mechanical properties of bi- and poly-crystalline ice. AIP Advances, 2018, 8, .	1.3	14
31	Structural and mechanical stability of clathrate hydrates encapsulating monoatomic guest species. Journal of Molecular Liquids, 2022, 347, 118391.	4.9	14
32	HTR: An ultra-high speed algorithm for cage recognition of clathrate hydrates. Nanotechnology Reviews, 2022, 11, 699-711.	5.8	14
33	Graphene-based woven filter membrane with excellent strength and efficiency for water desalination. Desalination, 2022, 533, 115775.	8.2	13
34	Charge-tunable insertion process of carbon nanotubes into DNA nanotubes. Journal of Molecular Graphics and Modelling, 2016, 66, 20-25.	2.4	12
35	Oxygen functionalization-induced crossover in the tensile properties of the thinnest 2D Ti2C MXene. Journal of Materials Chemistry C, 2021, 9, 2416-2425.	5.5	11
36	Grain boundary and misorientation angle-dependent thermal transport in single-layer MoS₂. Nanoscale, 2022, 14, 1241-1249.	5.6	11

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37	Theoretic Study on Dispersion Mechanism of Boron Nitride Nanotubes by Polynucleotides. Scientific Reports, 2016, 6, 39747.	3.3	10
38	Design of Heterogeneous Nuclei Composed of Uniaxial Cellulose Nanocrystal Assemblies for Epitaxial Growth of Poly(Ìµ-caprolactone). Macromolecules, 2017, 50, 3355-3364.	4.8	10
39	Design of Heterogeneous Nuclei for Lateral Crystallization via Uniaxial Assembly of Cellulose Nanocrystals. Crystal Growth and Design, 2016, 16, 4620-4626.	3.0	9
40	Classical nucleation theory of ice nucleation: Second-order corrections to thermodynamic parameters. Journal of Chemical Physics, 2021, 154, 234503.	3.0	9
41	Machine learning assisted insights into the mechanical strength of nanocrystalline graphene oxide. 2D Materials, 2022, 9, 035002.	4.4	9
42	Mechanical stability of fluorinated-methane clathrate hydrates. Journal of Molecular Liquids, 2022, 360, 119553.	4.9	9
43	Thermally induced hex-graphene transitions in 2D carbon crystals. Nanotechnology Reviews, 2022, 11, 1101-1114.	5.8	8
44	Bioinspired Compartmentalization Strategy for Coating Polymers with Self-Organized Prismatic Films. Chemistry of Materials, 2021, 33, 9240-9251.	6.7	7
45	Mechanical strength in hierarchically polycrystalline graphene with dislocation arrays-embedded grains. Materials Research Express, 2018, 5, 115019.	1.6	6
46	Carbon clathrates as strong lightweight structures. International Journal of Mechanical Sciences, 2021, 202-203, 106509.	6.7	6
47	Correlations of crystal shape and lateral orientation in bioinspired CaCO₃mineralization. CrystEngComm, 2018, 20, 5241-5248.	2.6	5
48	Simultaneous stiffening and strengthening of nanodiamond by fivefold twins. MRS Bulletin, 2022, 47, 219-230.	3.5	5
49	How Does the Step on Graphite Surface Impact Ice Nucleation?. Crystal Growth and Design, 2021, 21, 4354-4361.	3.0	4
50	Release of an Encapsulated Peptide from Carbon Nanotubes Driven by Electric Fields: A Molecular Dynamics Study. ACS Omega, 2021, 6, 27485-27490.	3.5	4
51	Role of mechanical deformation in the thermal transport of sI-type methane hydrate. Physical Chemistry Chemical Physics, 2022, 24, 5479-5488.	2.8	4
52	Oriented Crystallization of Hydroxyapatite in Self-Assembled Peptide Fibrils as a Bonelike Material. ACS Biomaterials Science and Engineering, 2023, 9, 1808-1814.	5.2	4
53	Pressing Carbon Nanotubes Triggers Better Ion Selectivity. Journal of Physical Chemistry C, 2017, 121, 19512-19518.	3.1	3
54	Fracture mechanics of methane clathrate hydrates. Acta Mechanica Sinica/Lixue Xuebao, 0, , 1.	3.4	3

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55	Spontaneous Adsorption of Graphene Oxide on Multiple Polymeric Surfaces. Langmuir, 2021, 37, 8829-8839.	3.5	3
56	Effect of interfacial dipole on heterogeneous ice nucleation. Journal of Physics Condensed Matter, 2021, 33, 375001.	1.8	3
57	Effect of Graphene on Ice Polymorph. Crystals, 2021, 11, 1134.	2.2	3
58	Direct proof of soft knock-on mechanism of ion permeation in a voltage gated sodium channel. International Journal of Biological Macromolecules, 2021, 188, 369-374.	7.5	1
59	Mechanical ductile detwinning in CH₃NH₃PbI₃ perovskite. Physical Chemistry Chemical Physics, 2021, 23, 21863-21873.	2.8	0