Bingbing Liu

List of Publications by Year
in descending order

137 papers	3,844 citations	126708 33 h-index	149479 56 g-index
137 all docs	137 docs citations	137 times ranked	3211 citing authors

#	Article	IF	Citations
1	Pressure-induced metallization of dense (H2S)2H2 with high-Tc superconductivity. Scientific Reports, 2014, 4, 6968.	1.6	802
2	Superconducting praseodymium superhydrides. Science Advances, 2020, 6, eaax6849.	4.7	99
3	Ultrahard bulk amorphous carbon from collapsed fullerene. Nature, 2021, 599, 599-604.	13.7	99
4	Polyhydride CeH9 with an atomic-like hydrogen clathrate structure. Nature Communications, 2019, 10, 3461.	5.8	81
5	Lowest enthalpy polymorph of cold-compressed graphite phase. Physical Chemistry Chemical Physics, 2012, 14, 4347.	1.3	80
6	Ab initiostudy revealing a layered structure in hydrogen-rich KH<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>6</mml:mn></mml:msub></mml:math>under high pressure. Physical Review B, 2012, 86, .	1.1	79
7	Alkaline-earth metal (Mg) polynitrides at high pressure as possible high-energy materials. Physical Chemistry Chemical Physics, 2017, 19, 9246-9252.	1.3	77
8	Improved Lithiumâ€Ion and Sodiumâ€Ion Storage Properties from Fewâ€Layered WS₂ Nanosheets Embedded in a Mesoporous CMKâ€3 Matrix. Chemistry - A European Journal, 2017, 23, 7074-7080.	1.7	75
9	Enhanced Photoluminescence and Photoresponsiveness of Eu³⁺ Ionsâ€Doped CsPbCl₃ Perovskite Quantum Dots under High Pressure. Advanced Functional Materials, 2021, 31, 2100930.	7.8	71
10	Pressure-Induced Amorphization and Polyamorphism in One-Dimensional Single-Crystal TiO₂ Nanomaterials. Journal of Physical Chemistry Letters, 2010, 1, 309-314.	2.1	68
11	A Novel Polymerization of Nitrogen in Beryllium Tetranitride at High Pressure. Journal of Physical Chemistry C, 2017, 121, 9766-9772.	1.5	67
12	High-temperature superconductivity in sulfur hydride evidenced by alternating-current magnetic susceptibility. National Science Review, 2019, 6, 713-718.	4.6	63
13	Hydrothermal synthesis of Î³-MnOOH nanorods and their conversion to MnO2, Mn2O3, and Mn3O4 nanorods. Journal of Alloys and Compounds, 2015, 644, 430-437.	2.8	62
14	Nitrogen concentration driving the hardness of rhenium nitrides. Scientific Reports, 2014, 4, 4797.	1.6	61
15	Structural stability of polymeric nitrogen: A first-principles investigation. Journal of Chemical Physics, 2010, 132, 024502.	1.2	60
16	Divergent synthesis routes and superconductivity of ternary hydride<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MgSiH</mml:mi><mml:mn>6</mml:mn></mml:msub></mml:math>at high pressure. Physical Review B, 2017, 96, .	1.1	57
17	Mechanical and metallic properties of tantalum nitrides from first-principles calculations. RSC Advances, 2014, 4, 10133.	1.7	55
18	Plasmonic-induced SERS enhancement of shell-dependent Ag@Cu₂O coreâ€“shell nanoparticles. RSC Advances, 2017, 7, 16553-16560.	1.7	55

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19	Pressure-Induced Phase Transition in Hydrogen-Bonded Supramolecular Adduct Formed by Cyanuric Acid and Melamine. Journal of Physical Chemistry B, 2009, 113, 14719-14724.	1.2	52
20	Two-dimensional Penta-BP5 Sheets: High-stability, Strain-tunable Electronic Structure and Excellent Mechanical Properties. Scientific Reports, 2017, 7, 2404.	1.6	52
21	Pressure-induced SERS enhancement in a MoS₂/Au/R6G system by a two-step charge transfer process. Nanoscale, 2019, 11, 21493-21501.	2.8	48
22	Cubic C₉₆: a novel carbon allotrope with a porous nanocube network. Journal of Materials Chemistry A, 2015, 3, 10448-10452.	5.2	47
23	Hexagonal-structured Îµ-NbN: ultra-incompressibility, high shear rigidity and a possible hard superconducting material. Scientific Reports, 2015, 5, 10811.	1.6	46
24	Morphology-Tuned Phase Transitions of Anatase TiO₂ Nanowires under High Pressure. Journal of Physical Chemistry C, 2013, 117, 8516-8521.	1.5	45
25	Effect of Grain Size on Pressure-Induced Structural Transition in Mn₃O₄. Journal of Physical Chemistry C, 2012, 116, 2165-2171.	1.5	41
26	Decompression-Induced Diamond Formation from Graphite Sheared under Pressure. Physical Review Letters, 2020, 124, 065701.	2.9	41
27	Molecular insertion regulates the donor-acceptor interactions in cocrystals for the design of piezochromic luminescent materials. Nature Communications, 2021, 12, 4084.	5.8	41
28	Ternary superconducting cophosphorus hydrides stabilized via lithium. Npj Computational Materials, 2019, 5, .	3.5	38
29	Facile SERS-active chip (PS@Ag/SiO2/Ag) for the determination of HCC biomarker. Sensors and Actuators B: Chemical, 2018, 272, 34-42.	4.0	37
30	Discovery of Superconductivity in Hard Hexagonal Îµ-NbN. Scientific Reports, 2016, 6, 22330.	1.6	36
31	New High Pressure Phases of the Znâ€“N System. Journal of Physical Chemistry C, 2020, 124, 4044-4049.	1.5	36
32	High-Pressure Studies on CeO₂ Nano-Octahedrons with a (111)-Terminated Surface. Journal of Physical Chemistry C, 2011, 115, 4546-4551.	1.5	34
33	Pressure-Induced Structures and Properties in Indium Hydrides. Inorganic Chemistry, 2015, 54, 9924-9928.	1.9	34
34	High pressure structures and superconductivity of AlH₃(H₂) predicted by first principles. RSC Advances, 2015, 5, 5096-5101.	1.7	33
35	Unique Phase Diagram and Superconductivity of Calcium Hydrides at High Pressures. Inorganic Chemistry, 2019, 58, 2558-2564.	1.9	33
36	Thermal equation of state of Molybdenum determined from in situ synchrotron X-ray diffraction with laser-heated diamond anvil cells. Scientific Reports, 2016, 6, 19923.	1.6	31

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37	New Cadmiumâ€“Nitrogen Compounds at High Pressures. Inorganic Chemistry, 2021, 60, 6772-6781.	1.9	31
38	Stability of Sulfur Nitrides: A First-Principles Study. Journal of Physical Chemistry C, 2017, 121, 1515-1520.	1.5	30
39	Modulated T carbon-like carbon allotropes: an ab initio study. RSC Advances, 2014, 4, 17364.	1.7	29
40	Pressure-induced superconducting ternary hydride H3SXe: A theoretical investigation. Frontiers of Physics, 2018, 13, 1.	2.4	29
41	The Study of Structural Transition of ZnS Nanorods under High Pressure. Journal of Physical Chemistry C, 2011, 115, 357-361.	1.5	28
42	Investigation of charge-transfer between a 4-mercaptobenzoic acid monolayer and TiO₂nanoparticles under high pressure using surface-enhanced Raman scattering. Chemical Communications, 2018, 54, 6280-6283.	2.2	27
43	Miscibility and ordered structures of MgO-ZnO alloys under high pressure. Scientific Reports, 2014, 4, 5759.	1.6	26
44	First-principles study on the structural and electronic properties of metallic HfH2 under pressure. Scientific Reports, 2015, 5, 11381.	1.6	26
45	High-temperature Superconductivity in compressed Solid Silane. Scientific Reports, 2015, 5, 8845.	1.6	25
46	Pressure tuned photoluminescence and band gap in two-dimensional layered g-C₃N₄: the effect of interlayer interactions. Nanoscale, 2020, 12, 12300-12307.	2.8	25
47	Self-Organized Back Surface Field to Improve the Performance of Cu₂ZnSn(S,Se)₄ Solar Cells by Applying P-Type MoSe₂:Nb to the Back Electrode Interface. ACS Applied Materials & Interfaces, 2019, 11, 31851-31859.	4.0	24
48	SERS Selective Enhancement on Monolayer MoS₂ Enabled by a Pressure-Induced Shift from Resonance to Charge Transfer. ACS Applied Materials & Interfaces, 2021, 13, 26551-26560.	4.0	23
49	High-Pressure Formation of Cobalt Polyhydrides: A First-Principle Study. Inorganic Chemistry, 2018, 57, 181-186.	1.9	22
50	High Energetic Polymeric Nitrogen Stabilized in the Confinement of Boron Nitride Nanotube at Ambient Conditions. Journal of Physical Chemistry C, 2016, 120, 16412-16417.	1.5	21
51	Crossover from metal to insulator in dense lithium-rich compound CLi ₄. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2366-2369.	3.3	21
52	Negative Volume Compressibility in Sc₃N@C₈₀â€“Cubane Cocrystal with Charge Transfer. Journal of the American Chemical Society, 2020, 142, 7584-7590.	6.6	20
53	Predicted novel metallic metastable phases of polymeric nitrogen at high pressures. New Journal of Physics, 2013, 15, 013010.	1.2	19
54	Predicted Formation of H₃⁺ in Solid Halogen Polyhydrides at High Pressures. Journal of Physical Chemistry A, 2015, 119, 11059-11065.	1.1	19

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55	Smart magnetic nanopowder based on the manganite perovskite for local hyperthermia. RSC Advances, 2020, 10, 30907-30916.	1.7	19
56	Pressure induced phase transition in MH2 (M = V, Nb). Journal of Chemical Physics, 2014, 140, 114703.	1.2	18
57	New Ordered Structure of Amorphous Carbon Clusters Induced by Fullereneâ€“Cubane Reactions. Advanced Materials, 2018, 30, e1706916.	11.1	18
58	Modulation of Field-Effect Passivation at the Back Electrode Interface Enabling Efficient Kesterite-Type Cu₂ZnSn(S,Se)₄ Thin-Film Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 38163-38174.	4.0	18
59	Haladaptatus pallidirubidus sp. nov., a halophilic archaeon isolated from saline soil samples in Yunnan and Xinjiang, China. Antonie Van Leeuwenhoek, 2014, 106, 901-910.	0.7	17
60	Unexpected calcium polyhydride CaH4: A possible route to dissociation of hydrogen molecules. Journal of Chemical Physics, 2019, 150, 044507.	1.2	17
61	Pressure Engineering for Extending Spectral Response Range and Enhancing Photoelectric Properties of Iodine. Advanced Optical Materials, 2021, 9, 2101163.	3.6	16
62	Prediction of stoichiometric PoHn compounds: crystal structures and properties. RSC Advances, 2015, 5, 103445-103450.	1.7	15
63	Enhancement of Tc in the atomic phase of iodine-doped hydrogen at high pressures. Physical Chemistry Chemical Physics, 2015, 17, 32335-32340.	1.3	15
64	Iron layer-dependent surface-enhanced raman scattering of hierarchical nanocap arrays. Applied Surface Science, 2017, 423, 1124-1133.	3.1	15
65	The structural transition behavior of CdSe/ZnS core/shell quantum dots under high pressure. Physica Status Solidi (B): Basic Research, 2011, 248, 1149-1153.	0.7	14
66	Structural, mechanical and electronic properties of Rh2B and RhB2: first-principles calculations. Scientific Reports, 2015, 5, 10500.	1.6	14
67	Morphology-Tuned Phase Transitions of Horseshoe Shaped BaTiO₃ Nanomaterials under High Pressure. Journal of Physical Chemistry C, 2018, 122, 5188-5194.	1.5	14
68	High energetic polymeric nitrogen sheet confined in a graphene matrix. RSC Advances, 2018, 8, 30912-30918.	1.7	14
69	Magnetoactive elastomer based on superparamagnetic nanoparticles with Curie point close to room temperature. Materials and Design, 2021, 197, 109281.	3.3	14
70	Structural stability and compressive behavior of ZrH₂under hydrostatic pressure and nonhydrostatic pressure. RSC Advances, 2014, 4, 46780-46786.	1.7	13
71	Pressure-Induced Diversity of Ï€-Stacking Motifs and Amorphous Polymerization in Pyrrole. Journal of Physical Chemistry C, 2014, 118, 12420-12427.	1.5	13
72	Ab initio investigation of CaO-ZnO alloys under high pressure. Scientific Reports, 2015, 5, 11003.	1.6	13

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73	Ab initio structure determination of n-diamond. Scientific Reports, 2015, 5, 13447.	1.6	13
74	Effects of magnetic ordering and electron correlations on the stability of FeN. RSC Advances, 2015, 5, 31270-31274.	1.7	13
75	Ab initio study of germanium-hydride compounds under high pressure. RSC Advances, 2015, 5, 19432-19438.	1.7	13
76	Structural stability and electronic property in K₂S under pressure. RSC Advances, 2017, 7, 7424-7430.	1.7	13
77	Cobaltâ€“Nitrogen Compounds at High Pressure. Inorganic Chemistry, 2021, 60, 14022-14030.	1.9	13
78	The stability of B₆ octahedron in BaB₆ under high pressure. RSC Advances, 2016, 6, 18077-18081.	1.7	12
79	A Novel High-Density Phase and Amorphization of Nitrogen-Rich 1H-Tetrazole (CH2N4) under High Pressure. Scientific Reports, 2017, 7, 39249.	1.6	12
80	Experimental verification of the high pressure crystal structures in NH3BH3. Journal of Chemical Physics, 2014, 140, 244507.	1.2	11
81	Ultrathin stimuli-responsive polymer film-based optical sensor for fast and visual detection of hazardous organic solvents. Journal of Materials Chemistry C, 2018, 6, 10861-10869.	2.7	11
82	Spin-dependent magnetism and superparamagnetic contribution to the magnetocaloric effect of non-stoichiometric manganite nanoparticles. Applied Materials Today, 2022, 26, 101340.	2.3	11
83	The crystal structure of IrB₂: a first-principle calculation. RSC Advances, 2014, 4, 63442-63446.	1.7	10
84	Pressure-induced phase transition of SnH₄: a new layered structure. RSC Advances, 2016, 6, 10456-10461.	1.7	10
85	Increasing local field by interfacial coupling in nanobowl arrays. RSC Advances, 2017, 7, 43671-43680.	1.7	10
86	Unravelling decomposition products of phosphine under high pressure. Journal of Raman Spectroscopy, 2018, 49, 721-727.	1.2	10
87	Graphdiyne under pressure: A Raman study. Applied Physics Letters, 2018, 113, .	1.5	10
88	How to get superhard MnB2: a first-principles study. Journal of Materials Chemistry, 2012, 22, 17630.	6.7	9
89	A novel stable hydrogen-rich SnH8 under high pressure. RSC Advances, 2015, 5, 107637-107641.	1.7	9
90	Temperature-Dependent Lasing of CsPbI₃ Triangular Pyramid. Journal of Physical Chemistry Letters, 2019, 10, 7056-7061.	2.1	9

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91	Ab initio studies of copper hydrides under high pressure. Frontiers of Physics, 2019, 14, 1.	2.4	9
92	Size and morphology effects on the high pressure behaviors of Mn₃O₄ nanorods. Nanoscale Advances, 2020, 2, 5841-5847.	2.2	9
93	Structural properties of ammonium iodide under high pressure. RSC Advances, 2015, 5, 40336-40340.	1.7	8
94	The hydrogenâ€bond effect on the high pressure behavior of hydrazinium monochloride. Journal of Raman Spectroscopy, 2015, 46, 266-272.	1.2	8
95	Pressure-stabilized polymerization of nitrogen in manganese nitrides at ambient and high pressures. Physical Chemistry Chemical Physics, 2022, 24, 5738-5747.	1.3	8
96	Crystal structures and properties of the CH4H2compound under high pressure. RSC Advances, 2014, 4, 37569.	1.7	7
97	In situ synchrotron X-ray diffraction with laser-heated diamond anvil cells study of Pt up to 95 GPa and 3150 K. RSC Advances, 2015, 5, 14603-14609.	1.7	7
98	A high pressure Raman study on confined individual iodine molecules as molecular probes of structural collapse in the AlPO₄-5 framework. Physical Chemistry Chemical Physics, 2018, 20, 26117-26125.	1.3	7
99	Vibrational Properties and Polymerization of Corannulene under Pressure, Probed by Raman and Infrared Spectroscopies. Journal of Physical Chemistry C, 2019, 123, 23674-23681.	1.5	7
100	High-pressure phase transition of MH3 (M: Er, Ho). Journal of Chemical Physics, 2014, 141, 054703.	1.2	6
101	Pressure-Induced Amorphization and Recrystallization of SnI₂. Journal of Physical Chemistry C, 2015, 119, 19312-19317.	1.5	5
102	Pressure-induced structural transformation of CaC2. Journal of Chemical Physics, 2016, 144, 194506.	1.2	5
103	Ab initio molecular dynamic study of solid-state transitions of ammonium nitrate. Scientific Reports, 2016, 6, 18918.	1.6	5
104	Unexpected stable stoichiometries and superconductivity of potassium-rich sulfides. RSC Advances, 2017, 7, 44884-44889.	1.7	5
105	New Phase of Ca(BH₄)₂ at Near Ambient Conditions. Journal of Physical Chemistry C, 2018, 122, 14272-14276.	1.5	5
106	Evolution of hydrogen dissolution and superconductivity in Re-based solid solutions under pressure studied by ab initio calculations. Physical Review B, 2021, 103, .	1.1	5
107	Size and Shapeâ€™s Effects on the High-Pressure Behavior of WS2 Nanomaterials. Materials, 2022, 15, 2838.	1.3	5
108	Evolution of self-trapped exciton emission tuned by high pressure in 2D all-inorganic cesium lead halide nanosheets. Journal of Materials Chemistry C, 2022, 10, 8711-8718.	2.7	5

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109	The New High-Pressure Phases of Nitrogen-Rich Agâ€“N Compounds. Materials, 2022, 15, 4986.	1.3	5
110	High pressure superconducting phase of BI3: an ab initio study. RSC Advances, 2014, 4, 32068-32074.	1.7	4
111	High-pressure polymorphism as a step towards high density structures of LiAlH4. Applied Physics Letters, 2015, 107, 041906.	1.5	4
112	Surface-enhanced Raman scattering from metal and transition metal nano-caped arrays. Superlattices and Microstructures, 2018, 115, 59-66.	1.4	4
113	Insights into Antibonding Induced Energy Density Enhancement and Exotic Electronic Properties for Germanium Nitrides at Modest Pressures. Inorganic Chemistry, 2018, 57, 10416-10423.	1.9	4
114	Novel ultrahard carbon structures by cold-compressing tubes. CrystEngComm, 2021, 23, 2091-2098.	1.3	4
115	Crystal structures and properties of nitrogen oxides under high pressure. RSC Advances, 2015, 5, 103373-103379.	1.7	3
116	Ab initio study on the stability of N-doped ZnO under high pressure. RSC Advances, 2015, 5, 16774-16779.	1.7	3
117	EPR and Raman study of silicon layers obtained by gas detonation spraying. Materials Science in Semiconductor Processing, 2017, 71, 232-239.	1.9	3
118	Metallization: New Metallic Ordered Phase of Perovskite CsPbI3 under Pressure (Adv. Sci. 14/2019). Advanced Science, 2019, 6, 1970083.	5.6	3
119	Structural, Electronic, and Optical Properties of ZnO_{1â€‰â€“â€‰x}Te_x Alloys. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900155.	1.2	3
120	Armchair shaped polymeric nitrogen N8 chains confined in h-BN matrix at ambient conditions: stability and vibration analysis. RSC Advances, 2019, 9, 29987-29992.	1.7	3
121	Lasing Behavior of a Single ZnO Nanowire Resonating in Fabryâ€“Perot Mode under Pressure. Journal of Physical Chemistry C, 2020, 124, 7523-7530.	1.5	3
122	High Pressure and High Temperature Induced Polymerization of C₆₀ Solvates: The Effect of Intercalated Aromatic Solvents. Journal of Physical Chemistry C, 2021, 125, 17155-17163.	1.5	3
123	Melting curve of the cI16 sodium at high pressure from ab initio calculations. Physica Status Solidi (B): Basic Research, 2011, 248, 1143-1148.	0.7	2
124	Crystal structure prediction and hydrogen-bond symmetrization of solid hydrazine under high pressure: a first-principles study. Acta Crystallographica Section C, Structural Chemistry, 2014, 70, 112-117.	0.2	2
125	A theoretical investigation on phase transition and dissociation of ammonium bromide under high pressure. Science Bulletin, 2014, 59, 5272-5277.	1.7	2
126	Pressure-induced structural changes in NH₄Br. Journal of Chemical Physics, 2015, 143, 064505.	1.2	2

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127	Elastic properties of single crystal hydrogen sulfide: A Brillouin scattering study under high pressure-temperature. Journal of Applied Physics, 2018, 124, 125901.	1.1	2
128	Semiconductorâ€“metal transition in GaAs nanowires under high pressure. Chinese Physics B, 2019, 28, 076401.	0.7	2
129	Pressureâ€induced insertion and transformation of N₂ in the cavities of zeolitic imidazolate frameworkâ€8: A Raman study. Journal of Raman Spectroscopy, 2020, 51, 1230-1239.	1.2	2
130	Anomalous phonon softening of G-band in compressed graphitic carbon nitride due to strong electrostatic repulsion. Applied Physics Letters, 2021, 118, .	1.5	2
131	An investigation of the effect of high-pressure on charge transfer in dye-sensitized solar cells based on surface-enhanced Raman spectroscopy. Nanoscale, 2022, 14, 373-381.	2.8	2
132	High-Pressure Synthesis and Stability Enhancement of Lithium Pentazolate. Inorganic Chemistry, 2022, 61, 9012-9018.	1.9	2
133	Strain-engineering enables reversible semiconductorâ€“metal transition of skutterudite IrAs3. Inorganic Chemistry Frontiers, 2020, 7, 1108-1114.	3.0	1
134	Enhancing the light emission of GaAs nanowires by pressure-modulated charge transfer. Nanoscale Advances, 2020, 2, 2558-2563.	2.2	1
135	High pressure structural stability of the Na-Te system. AIP Advances, 2018, 8, 035123.	0.6	0
136	Ordered Amorphous Carbon: New Ordered Structure of Amorphous Carbon Clusters Induced by Fullerene-Cubane Reactions (Adv. Mater. 22/2018). Advanced Materials, 2018, 30, 1870156.	11.1	0
137	Pressure-Induced Variation of the Crystal Stacking Order in the Hydrogen-Bonded Quasi-Two-Dimensional Layered Material Cu(OH)Cl. Materials, 2021, 14, 5019.	1.3	0