Houyang Chen

List of Publications by Year
in descending order

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80 papers	2,405 citations	172207 29 h-index	233125 45 g-index
83 all docs	83 docs citations	83 times ranked	2461 citing authors

#	Article	IF	Citations
1	Popgraphene: a new 2D planar carbon allotrope composed of 5â€“8â€“5 carbon rings for high-performance lithium-ion battery anodes from bottom-up programming. Journal of Materials Chemistry A, 2018, 6, 6815-6821.	5.2	212
2	Reconfiguring graphene for high-performance metal-ion battery anodes. Energy Storage Materials, 2019, 16, 619-624.	9.5	143
3	NiFe-Layered Double Hydroxide Synchronously Activated by Heterojunctions and Vacancies for the Oxygen Evolution Reaction. ACS Applied Materials & Interfaces, 2020, 12, 42850-42858.	4.0	105
4	Nitrogenated holey graphene C2N monolayer anodes for lithium- and sodium-ion batteries with high performance. Energy Storage Materials, 2019, 16, 574-580.	9.5	100
5	A facile and effective sulfur loading method: Direct drop of liquid Li2S8 on carbon coated TiO2 nanowire arrays as cathode towards commercializing lithium-sulfur battery. Energy Storage Materials, 2019, 17, 118-125.	9.5	72
6	Ultrafine Co nanodots embedded in N-doped carbon nanotubes grafted on hexagonal VN for highly efficient overall water splitting. Nano Energy, 2020, 73, 104788.	8.2	71
7	Two-Dimensional Carbon-Based Auxetic Materials for Broad-Spectrum Metal-Ion Battery Anodes. Journal of Physical Chemistry Letters, 2019, 10, 3269-3275.	2.1	64
8	Strength and failure behavior of a graphene sheet containing bi-grain-boundaries. RSC Advances, 2014, 4, 54677-54683.	1.7	61
9	Nanoparticle aggregation in the presence of a block copolymer. Journal of Chemical Physics, 2009, 131, 244904.	1.2	60
10	Fracture behaviors of brittle and ductile 2D carbon structures under uniaxial tensile stress. Carbon, 2017, 111, 486-492.	5.4	59
11	Hydrated Ions: From Individual Ions to Ion Pairs to Ion Clusters. Journal of Physical Chemistry B, 2015, 119, 12671-12676.	1.2	57
12	Large-Scale Molecular Simulations on the Mechanical Response and Failure Behavior of a defective Graphene: Cases of 5â€“8â€“5 Defects. Scientific Reports, 2015, 5, 14957.	1.6	50
13	Structure and particle aggregation in block copolymer-binary nanoparticle composites. Polymer, 2010, 51, 5869-5882.	1.8	49
14	Tunable thermal transport and mechanical properties of graphyne heterojunctions. Physical Chemistry Chemical Physics, 2016, 18, 24210-24218.	1.3	49
15	MoS2/CoFe2O4 heterojunction for boosting photogenerated carrier separation and the dominant role in enhancing peroxymonosulfate activation. Chemical Engineering Journal, 2022, 433, 134467.	6.6	48
16	Formation and Degradation of Multicomponent Multicore Micelles: Insights from Dissipative Particle Dynamics Simulations. Langmuir, 2013, 29, 5428-5434.	1.6	47
17	Promoting polysulfide redox reactions and improving electronic conductivity in lithiumâ€“sulfur batteries via hierarchical cathode materials of graphene-wrapped porous TiO₂ microspheres with exposed (001) facets. Journal of Materials Chemistry A, 2018, 6, 16574-16582.	5.2	47
18	Interfacial active fluorine site-induced electron transfer on TiO₂ (001) facets to enhance polysulfide redox reactions for better liquid Li₂S₆-Based lithiumâ€“sulfur batteries. Journal of Materials Chemistry A, 2019, 7, 6431-6438.	5.2	45

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19	Semimetallic carbon honeycombs: new three-dimensional graphene allotropes with Dirac cones. Nanoscale, 2018, 10, 2748-2754.	2.8	43
20	Facet-tailoring five-coordinated Ti sites and structure-optimizing electron transfer in a bifunctional cathode with titanium nitride nanowire array to boost the performance of Li2S6-based lithiumâ€“sulfur batteries. Energy Storage Materials, 2020, 26, 40-45.	9.5	43
21	Highly negative Poisson's ratio in a flexible two-dimensional tungsten carbide monolayer. Physical Chemistry Chemical Physics, 2018, 20, 18924-18930.	1.3	42
22	Mechanical Properties and Failure Mechanisms of Graphene under a Central Load. ChemPhysChem, 2014, 15, 2749-2755.	1.0	38
23	Functionalization: An Effective Approach to Open and Close Channels for Electron Transfer in Nitrogenated Holey Graphene C₂N Anodes in Sodium-Ion Batteries. Journal of Physical Chemistry Letters, 2019, 10, 721-726.	2.1	37
24	Modulation of the electronic and mechanical properties of phagraphene via hydrogenation and fluorination. Physical Chemistry Chemical Physics, 2017, 19, 11771-11777.	1.3	35
25	Nanomembrane Containing a Nanopore in an Electrolyte Solution: A Molecular Dynamics Approach. Journal of Physical Chemistry Letters, 2014, 5, 2979-2982.	2.1	34
26	Density functional theory of homopolymer mixtures confined in a slit. Journal of Chemical Physics, 2006, 125, 124705.	1.2	31
27	Bco-C24: A new 3D Dirac nodal line semi-metallic carbon honeycomb for high performance metal-ion battery anodes. Carbon, 2020, 159, 542-548.	5.4	30
28	Aggregation of nanoparticles in a block copolymer bilayer. Journal of Colloid and Interface Science, 2011, 363, 573-578.	5.0	29
29	Micellar Structures in Nanoparticle-Multiblock Copolymer Complexes. Langmuir, 2014, 30, 3723-3728.	1.6	29
30	Self-assembly of Ï€-shaped copolymers. Soft Matter, 2012, 8, 1327-1333.	1.2	28
31	Two-dimensional multimetallic sulfide nanosheets with multi-active sites to enhance polysulfide redox reactions in liquid Li2S6-based lithium-polysulfide batteries. Journal of Energy Chemistry, 2021, 52, 163-169.	7.1	28
32	Stabilization of two-dimensional penta-silicene for flexible lithium-ion battery anodes via surface chemistry reconfiguration. Physical Chemistry Chemical Physics, 2019, 21, 1029-1037.	1.3	27
33	Triple-phase interfaces of graphene-like carbon clusters on antimony trisulfide nanowires enable high-loading and long-lasting liquid Li2S6-based lithium-sulfur batteries. Journal of Energy Chemistry, 2021, 59, 599-607.	7.1	26
34	Capture of pure toxic gases through porous materials from molecular simulations. Molecular Physics, 2018, 116, 2095-2107.	0.8	24
35	Potassium mediated Coâ€“Fe-based Prussian blue analogue architectures for aqueous potassium-ion storage. Chemical Communications, 2021, 57, 7019-7022.	2.2	24
36	Recognition of Multiblock Copolymers on Nanopatterned Surfaces:Â Insight from Molecular Simulations. Langmuir, 2007, 23, 2430-2436.	1.6	23

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37	Hybrid Density Functional Theory for Homopolymer Mixtures Confined in a Selective Nanoslit. Journal of Physical Chemistry B, 2007, 111, 5927-5933.	1.2	22
38	Periodical structural conversion and its mechanism in hematite: from nanospindles, to nanotubes, to nanotires. RSC Advances, 2012, 2, 1009-1013.	1.7	21
39	Density functional theory for the recognition of polymer at nanopatterned surface. Journal of Chemical Physics, 2006, 125, 204708.	1.2	19
40	Nanostructures Self-Assembled in Polymer Solutions Confined in Cylindrical Nanopores. Langmuir, 2009, 25, 12315-12319.	1.6	19
41	Assembly of Copolymer Blend on Nanopatterned Surfaces:â€‰ A Molecular Simulation Study. Langmuir, 2007, 23, 11112-11119.	1.6	18
42	Density functional theory for copolymers confined in a nanoslit. Journal of Chemical Physics, 2007, 126, 134903.	1.2	17
43	Formation of complex colloidal particles: morphologies and mechanisms. Soft Matter, 2012, 8, 8911.	1.2	17
44	MoO42â^'-mediated engineering of Na3V2(PO4)3 as advanced cathode materials for sodium-ion batteries. Journal of Colloid and Interface Science, 2022, 606, 1897-1905.	5.0	17
45	Prediction of band gap reduction and magnetism in (Cu, S)-codoped ZnO. Journal of Magnetism and Magnetic Materials, 2012, 324, 2153-2157.	1.0	16
46	Reshaping two-dimensional MoS2 for superior magnesium-ion battery anodes. Journal of Colloid and Interface Science, 2021, 597, 401-408.	5.0	16
47	<scp>Vacancyâ€“vacancy</scp> pairs induced new phase formation in carbon boride: A design principle to achieve superior performance Li/Naâ€ion battery anodes. EcoMat, 2022, 4, .	6.8	16
48	Relation between molecular orientation and morphology of a multiblock copolymer melt confined in cylindrical nanopores. Polymer, 2010, 51, 968-974.	1.8	14
49	Competitive Adsorption and Assembly of Block Copolymer Blends on Nanopatterned Surfaces. Langmuir, 2010, 26, 6663-6668.	1.6	14
50	Geometries and electronic properties of bimetallic CuVn (n=1â€“5) clusters and their cations: Insight from density functional calculations. Computational Materials Science, 2015, 102, 213-219.	1.4	14
51	Mechanical deformation induced charge redistribution to promote the high performance of stretchable magnesium-ion batteries based on two-dimensional C₂N anodes. Nanoscale, 2019, 11, 15472-15478.	2.8	14
52	Plasma functionalized MoSe₂ for efficient nonenzymatic sensing of hydrogen peroxide in ultraâ€wide pH range. SmartMat, 2022, 3, 491-502.	6.4	14
53	Monoclinic BiPO4: Preparation, photocatalytic properties in experiment and theoretical calculation. Solar Energy, 2021, 220, 440-449.	2.9	13
54	Atomistic Modeling of Tripletâ€“Triplet Energy-Transfer Rates from Drug (S)-Propranolol to (R)-Cinacalcet in Human Î±₁-Acid Glycoprotein. Journal of Physical Chemistry C, 2015, 119, 8014-8022.	1.5	12

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55	All-silica zeolites screening for capture of toxic gases from molecular simulation. Chinese Journal of Chemical Engineering, 2019, 27, 174-181.	1.7	12
56	Microscale investigations of mechanical responses of TKX-50 based polymer bonded explosives using MD simulations. Computational Materials Science, 2020, 172, 109287.	1.4	12
57	Selective adsorption of ethylene on bimetallic CuV+/0 (n= 1â€“5) clusters: A theoretical study. Computational Materials Science, 2016, 111, 489-496.	1.4	11
58	Adsorption of Copolymers in a Selective Nanoslit: A Hybrid Density Functional Theory. Journal of Physical Chemistry B, 2008, 112, 9568-9573.	1.2	10
59	Density functional theory for the selective adsorption of small molecules on a surface modified with polymer brushes. Molecular Simulation, 2012, 38, 274-283.	0.9	10
60	An experimental and theoretical study of dimethylaminostyryl BODIPY-perylenetetracarboxylic derivative dyads: synthesis, properties and DFT calculation. RSC Advances, 2016, 6, 23094-23101.	1.7	10
61	Computational study of transition states for reaction path of energetic material TKX-50. Journal of Energetic Materials, 2019, 37, 240-250.	1.0	10
62	Porous Material Screening and Evaluation for Deep Desulfurization of Dry Air. Langmuir, 2020, 36, 2775-2785.	1.6	10
63	New Findings on an Old Question: Can Defectâ€Free Graphene Monolayers be Superior Metalâ€Ion Battery Anodes?. Advanced Sustainable Systems, 2020, 4, 1900152.	2.7	10
64	Investigations of CO₂Capture from Gas Mixtures Using Porous Liquids. Langmuir, 2021, 37, 1255-1266.	1.6	10
65	High Activity and Stability of PdO_x Anchored in Porous NiO Nanofibers for Catalyzing Suzuki Coupling Reactions. Journal of Physical Chemistry C, 2020, 124, 22539-22549.	1.5	10
66	Investigation of ternary ConCNâ¯1/0 (n = 1â€“5) clusters by density functional calculations. Dalton Transactions, 2014, 43, 5516.	1.6	9
67	The driving force of channel formation in triheteropolymers confined in nanocylindrical tubes. Journal of Chemical Physics, 2009, 130, 024901.	1.2	8
68	Tunable Primary and Secondary Encapsulation of a Charged Nonspherical Nanoparticle: Insights from Brownian Dynamics Simulations. Industrial & Engineering Chemistry Research, 2017, 56, 1646-1651.	1.8	8
69	Adsorption, hydrogenation and dehydrogenation of C 2 H on a CoCu bimetallic layer. Surface Science, 2018, 671, 36-42.	0.8	8
70	Mechanical deformation: A feasible route for reconfiguration of inner interfaces to modulate the high performance of three-dimensional porous carbon material anodes in stretchable lithium-Ion batteries. Journal of Colloid and Interface Science, 2019, 555, 431-437.	5.0	8
71	The structure of nanochannels formed by block copolymer solutions confined in nanotubes. Journal of Chemical Physics, 2009, 131, 114904.	1.2	7
72	In situ tailored strategy to remove capping agents from copper sulfide for building better lithiumâ€“sulfur batteries. Journal of Materials Chemistry A, 2022, 10, 4015-4023.	5.2	7

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73	Controlling Nanorod Oligomer Aggregation in Solutions. Journal of Physical Chemistry C, 2016, 120, 16913-16918.	1.5	6
74	Screening and Improving Porous Materials for Ultradeep Desulfurization of Gasoline. Industrial & Engineering Chemistry Research, 2021, 60, 604-613.	1.8	6
75	Numerical evaluation and improvement efficiency of radial flow movingâ€bed reactors for catalytic pyrolysis of light hydrocarbons to low carbon olefins. Canadian Journal of Chemical Engineering, 2015, 93, 1033-1043.	0.9	4
76	A free-space density functional theory for polymer adsorption: Influence of packing effect on conformations of polymer. Journal of Chemical Physics, 2011, 134, 044713.	1.2	3
77	Nanoseparation of Nanoparticle Mixtures with Similar Surface Structures through a Facile Two-Step Approach. Industrial & Engineering Chemistry Research, 2019, 58, 3420-3426.	1.8	3
78	Electrical Properties and Stability of Poly(N-isopropylacylamide-co-methacrylic Acid) Core-Shell Microgel. Journal of Dispersion Science and Technology, 2009, 30, 1281-1287.	1.3	2
79	Phase Equilibria, Morphologies of Microphase Separation, and Interfacial Structures of Polymer Systems Studied by Equations of State. Structure and Bonding, 2009, , 109-142.	1.0	1
80	Phase Equilibria, Morphologies of Microphase Separation, and Interfacial Structures of Polymer Systems Studied by Equations of State. Structure and Bonding, 2008, , .	1.0	0