

# Nanoporous Materials for the Onboard Storage of Natural Gas

Chemical Reviews

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Gas Storage Applications. <i>Crystal Growth and Design</i> , 2017, 17, 3221-3228.	3.0	24
2	Lanthanide-Based Coordination Polymers for the Size-Selective Detection of Nitroaromatics. <i>Crystal Growth and Design</i> , 2017, 17, 3907-3916.	3.0	45
3	A Host Material for Deep-Blue Electrophosphorescence Based on a Cuprous Metal-Organic Framework. <i>Journal of Physical Chemistry C</i> , 2017, 121, 23072-23079.	3.1	16
4	On the microscopic origin of the temperature evolution of isosteric heat for methane adsorption on graphite. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 27105-27115.	2.8	11
5	N <sub>2</sub> Capture Performances of the Hybrid Porous MIL-101(Cr): From Prediction toward Experimental Testing. <i>Journal of Physical Chemistry C</i> , 2017, 121, 22130-22138.	3.1	21
6	Engineering of Pore Geometry for Ultrahigh Capacity Methane Storage in Mesoporous Metal-Organic Frameworks. <i>Journal of the American Chemical Society</i> , 2017, 139, 13300-13303.	13.7	140
7	Room-temperature fabrication of a three-dimensional porous silicon framework inspired by a polymer foaming process. <i>Chemical Communications</i> , 2017, 53, 8858-8861.	4.1	5
8	Cycling and Regeneration of Adsorbed Natural Gas in Microporous Materials. <i>Energy &amp; Fuels</i> , 2017, 31, 14332-14337.	5.1	14
9	Enhancing Higher Hydrocarbons Capture for Natural Gas Upgrading by Tuning van der Waals Interactions in <i>fcu</i> -Type Zr-MOFs. <i>Industrial &amp; Engineering Chemistry Research</i> , 2017, 56, 14633-14641.	3.7	49
10	Diethylenetriamine-mediated self-assembly of three-dimensional hierarchical nanoporous CoP nanoflowers/pristine graphene interconnected networks as efficient electrocatalysts toward hydrogen evolution. <i>Sustainable Energy and Fuels</i> , 2017, 1, 2172-2180.	4.9	35
11	Synthesis and characterization of metalorganic polymers of intrinsic microporosity based on iron(II) clathrochelate. <i>Polymer</i> , 2017, 122, 200-207.	3.8	22
12	Probing Gas Adsorption in Zeolites by Variable-Temperature IR Spectroscopy: An Overview of Current Research. <i>Molecules</i> , 2017, 22, 1557.	3.8	9
13	A Chemical Role for Trichloromethane: Room-Temperature Removal of Coordinated Solvents from Open Metal Sites in the Copper-Based Metal-Organic Frameworks. <i>Inorganic Chemistry</i> , 2018, 57, 5225-5231.	4.0	33
14	A Multifaceted Study of Methane Adsorption in Metal-Organic Frameworks by Using Three Complementary Techniques. <i>Chemistry - A European Journal</i> , 2018, 24, 7866-7881.	3.3	29
15	Expanding the dimensions of metal-organic framework research towards dielectrics. <i>Coordination Chemistry Reviews</i> , 2018, 360, 77-91.	18.8	48
16	Self-assembled 1D infinite inorganic [2]catenane and 2D sheet framework with calix[8]phenylazoimidazole and [4+4]metallomacrocyclic motifs based on silver and ditopic bis(imidazolyl)methane ligands. <i>Journal of Molecular Structure</i> , 2018, 1160, 222-226.	3.6	4
17	A Robust 3D Cage-like Ultramicroporous Network Structure with High Gas Uptake Capacity. <i>Angewandte Chemie</i> , 2018, 130, 3473-3478.	2.0	6
18	Diverse architectures and luminescence properties of three low-dimensional Zn(II)/Cd(II) coordination polymers based on a pyridine-imidazole ligand. <i>Inorganic Chemistry Communication</i> , 2018, 90, 29-33.	3.9	5

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19	A Robust 3D Cage-like Ultramicroporous Network Structure with High Gas Uptake Capacity. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 3415-3420.	13.8	40
20	Sorption of CO <sub>2</sub> in a hydrogen-bonded diamondoid network of sulfonylcalix[4]arene. <i>Supramolecular Chemistry</i> , 2018, 30, 540-544.	1.2	4
21	Oil/molten salt interfacial synthesis of hybrid thin carbon nanostructures and their composites. <i>Journal of Materials Chemistry A</i> , 2018, 6, 4988-4996.	10.3	17
22	Diffusion Control in the in Situ Synthesis of Iconic Metal-Organic Frameworks within an Ionic Polymer Matrix. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 3793-3800.	8.0	30
23	Metal coordination and metal activation abilities of commonly unreactive chloromethanes toward metal-organic frameworks. <i>Chemical Communications</i> , 2018, 54, 6458-6471.	4.1	42
24	Methane Hydrate in Confined Spaces: An Alternative Storage System. <i>ChemPhysChem</i> , 2018, 19, 1298-1314.	2.1	59
25	Methane hydrate formation in the confined nanospace of activated carbons in seawater environment. <i>Microporous and Mesoporous Materials</i> , 2018, 255, 220-225.	4.4	37
26	Open and closed forms of the interpenetrated [Cu <sub>2</sub> (Tae)(Bpa) <sub>2</sub> ](NO <sub>3</sub> ) <sub>2</sub> ·nH <sub>2</sub> O: magnetic properties and high pressure CO <sub>2</sub> /CH <sub>4</sub> gas sorption. <i>Dalton Transactions</i> , 2018, 47, 958-970.	3.3	2
28	Renaissance of the Methane Adsorbents. <i>Israel Journal of Chemistry</i> , 2018, 58, 985-994.	2.3	7
30	MOF-GO Hybrid Nanocomposite Adsorbents for Methane Storage. <i>Industrial &amp; Engineering Chemistry Research</i> , 2018, 57, 17470-17479.	3.7	50
31	Optimization of structural and energy characteristics of adsorbents for methane storage. <i>Russian Chemical Bulletin</i> , 2018, 67, 1814-1822.	1.5	21
32	Combined Natural Gas Separation and Storage Based on in Silico Material Screening and Process Optimization. <i>Industrial &amp; Engineering Chemistry Research</i> , 2018, 57, 16727-16750.	3.7	7
33	Spectroscopic characterization of adsorbate confined in small mesopores: Distinction of first surface-adsorbed layer, polymolecular layers, and liquid clusters. <i>Journal of Raman Spectroscopy</i> , 2018, 49, 1945-1952.	2.5	6
34	Porous carbon-based adsorption systems for natural gas (methane) storage. <i>Russian Chemical Reviews</i> , 2018, 87, 950-983.	6.5	48
35	The Effects of Methane Storage Capacity Using Upgraded Activated Carbon by KOH. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 1596.	2.5	24
36	Coordination Network That Reversibly Switches between Two Nonporous Polymorphs and a High Surface Area Porous Phase. <i>Journal of the American Chemical Society</i> , 2018, 140, 15572-15576.	13.7	51
37	Predicting the Features of Methane Adsorption in Large Pore Metal-Organic Frameworks for Energy Storage. <i>Nanomaterials</i> , 2018, 8, 818.	4.1	14
38	Steam Activation of Anthracite Intercalated with Nitric Acid. <i>Solid Fuel Chemistry</i> , 2018, 52, 222-229.	0.7	2

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39	Metal-Organic Framework Hybrid Materials and Their Applications. Crystals, 2018, 8, 325.	2.2	58
40	Storage of CO <sub>2</sub> into Porous Coordination Polymer Controlled by Molecular Rotor Dynamics. Angewandte Chemie - International Edition, 2018, 57, 8687-8690.	13.8	64
41	Recyclable switching between nonporous and porous phases of a square lattice (<b>sql</b>) topology coordination network. Chemical Communications, 2018, 54, 7042-7045.	4.1	37
42	Dual-metal zeolitic imidazolate frameworks and their derived nanoporous carbons for multiple environmental and electrochemical applications. Chemical Engineering Journal, 2018, 351, 641-649.	12.7	49
43	From synthesis to applications: Metal-organic frameworks for an environmentally sustainable future. Current Opinion in Green and Sustainable Chemistry, 2018, 12, 47-56.	5.9	33
44	Effect of rheological properties of mesophase pitch and coal mixtures on pore development in activated carbon discs with high compressive strength. Fuel Processing Technology, 2018, 177, 219-227.	7.2	19
45	Photoacoustic Sensing of Trapped Fluids in Nanoporous Thin Films: Device Engineering and Sensing Scheme. ACS Applied Materials & Interfaces, 2018, 10, 27947-27954.	8.0	21
46	Ag-Based Coordination Polymers Based on Metalloligands and Their Catalytic Performance in Multicomponent A <sup>3</sup> -Coupling Reactions. Crystal Growth and Design, 2018, 18, 5501-5511.	3.0	25
47	First principles Monte Carlo simulations of unary and binary adsorption: CO <sub>2</sub> , N <sub>2</sub> , and H <sub>2</sub> O in Mg-MOF-74. Chemical Communications, 2018, 54, 10816-10819.	4.1	31
48	Storage of CO <sub>2</sub> into Porous Coordination Polymer Controlled by Molecular Rotor Dynamics. Angewandte Chemie, 2018, 130, 8823-8826.	2.0	18
49	Assessing the Potential of Biochars Prepared by Steam-Assisted Slow Pyrolysis for CO <sub>2</sub> Adsorption and Separation. Energy & Fuels, 2018, 32, 10218-10227.	5.1	64
50	In Silico Design of 2D and 3D Covalent Organic Frameworks for Methane Storage Applications. Chemistry of Materials, 2018, 30, 5069-5086.	6.7	101
51	Solvent-free vacuum growth of oriented HKUST-1 thin films. Journal of Materials Chemistry A, 2019, 7, 19396-19406.	10.3	54
52	High-capacity methane storage in flexible alkane-linked porous aromatic network polymers. Nature Energy, 2019, 4, 604-611.	39.5	110
53	Ultrafast preparation of saccharide-derived carbon microspheres with excellent dispersibility via ammonium persulfate-assisted hydrothermal carbonization. Journal of Materials Chemistry A, 2019, 7, 18840-18845.	10.3	38
54	Effect of crosslinking patterns on the properties of conjugated microporous polymers. Turkish Journal of Chemistry, 2019, 43, 730-739.	1.2	2
55	Thermal Engineering of Metal-Organic Frameworks for Adsorption Applications: A Molecular Simulation Perspective. ACS Applied Materials & Interfaces, 2019, 11, 38697-38707.	8.0	56
56	Metal-organic framework structures: adsorbents for natural gas storage. Russian Chemical Reviews, 2019, 88, 925-978.	6.5	57

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58	Tuning the Gate-Opening Pressure in a Switching pcu Coordination Network, X <sub>5</sub> Zn, by Pillar-Ligand Substitution. Angewandte Chemie - International Edition, 2019, 58, 18212-18217.	13.8	55
59	Electrical Properties of Nanostructured MgAl <sub>2</sub> O <sub>4</sub> Ceramics in Adsorption-Desorption Cycles. , 2019, , .		0
60	A Reversible Phase Transition of 2D Coordination Layers by H <sup>+</sup> /Cu(II) Interactions in a Coordination Polymer. Molecules, 2019, 24, 3204.	3.8	7
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62	Pd-Supported N/S-Codoped Graphene-Like Carbons Boost Quinoline Hydrogenation Activity. ACS Sustainable Chemistry and Engineering, 2019, 7, 11369-11376.	6.7	34
63	Porosity Modulation in Two-Dimensional Covalent Organic Frameworks Leads to Enhanced Iodine Adsorption Performance. Industrial & Engineering Chemistry Research, 2019, 58, 10495-10502.	3.7	66
64	Tuning porosity in macroscopic monolithic metal-organic frameworks for exceptional natural gas storage. Nature Communications, 2019, 10, 2345.	12.8	180
65	Computational design of multilayer frameworks to achieve DOE target for on-board methane delivery. Carbon, 2019, 152, 206-217.	10.3	5
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67	Sustainable Salt Template-Assisted Chemical Activation for the Production of Porous Carbons with Enhanced Power Handling Ability in Supercapacitors. Batteries and Supercaps, 2019, 2, 701-711.	4.7	41
70	Nanoporous Carbons with Tuned Porosity. Green Energy and Technology, 2019, , 91-135.	0.6	2
71	Nanoporous Materials for Gas Storage. Green Energy and Technology, 2019, , .	0.6	14
72	Gas storage. , 2019, , 341-382.		1
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74	Fast removal of diclofenac sodium from aqueous solution using sugar cane bagasse-derived activated carbon. Journal of Molecular Liquids, 2019, 285, 9-19.	4.9	102
76	Characterization of the adsorption site energies and heterogeneous surfaces of porous materials. Journal of Materials Chemistry A, 2019, 7, 10104-10137.	10.3	187
77	Tuning the Gate-Opening Pressure in a Switching pcu Coordination Network, X <sub>5</sub> Zn, by Pillar-Ligand Substitution. Angewandte Chemie, 2019, 131, 18380-18385.	2.0	12

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79	Quantum Dynamics of H <sub>2</sub> and D <sub>2</sub> Confined in Hydrate Structures as a Function of Pressure and Temperature. <i>Journal of Physical Chemistry C</i> , 2019, 123, 1888-1903.	3.1	12
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81	A novel model for natural gas storage on carbon nanotubes. <i>Applied Nanoscience (Switzerland)</i> , 2020, 10, 1115-1129.	3.1	2
82	Time-dependent solid-state molecular motion and colour tuning of host-guest systems by organic solvents. <i>Nature Communications</i> , 2020, 11, 77.	12.8	51
83	Predictable and targeted activation of biomass to carbons with high surface area density and enhanced methane storage capacity. <i>Energy and Environmental Science</i> , 2020, 13, 2967-2978.	30.8	55
84	Adsorption Accumulation of Liquefied Natural Gas Vapors. <i>Protection of Metals and Physical Chemistry of Surfaces</i> , 2020, 56, 897-903.	1.1	8
85	Thermodynamic Behaviors of Adsorbed Methane Storage Systems Based on Nanoporous Carbon Adsorbents Prepared from Coconut Shells. <i>Nanomaterials</i> , 2020, 10, 2243.	4.1	19
86	Thermodynamics of Adsorbed Methane Storage Systems Based on Peat-Derived Activated Carbons. <i>Nanomaterials</i> , 2020, 10, 1379.	4.1	21
87	Luminescent Cd <sup>II</sup> metal-organic frameworks based on isoniazid using a mixed ligand approach. <i>CrystEngComm</i> , 2020, 22, 5980-5986.	2.6	4
88	Potassium Oxalate as an Alternative Activating Reagent of Corn Starch-Derived Porous Carbons for Methane Storage. <i>Journal of Nanoscience and Nanotechnology</i> , 2020, 20, 7124-7129.	0.9	7
89	Evolution of the Design of CH <sub>4</sub> Adsorbents. <i>Surfaces</i> , 2020, 3, 433-466.	2.3	10
90	Improved latent heat storage properties through mesopore enrichment of a zeolitic shape stabilizer. <i>Solar Energy Materials and Solar Cells</i> , 2020, 216, 110677.	6.2	4
91	<i>In Vivo</i> Enzyme Entrapment in a Protein Crystal. <i>Journal of the American Chemical Society</i> , 2020, 142, 9879-9883.	13.7	39
92	Adsorption equilibrium and the effect of honeycomb heat exchanging device on charge/discharge characteristic of methane on MIL-101(Cr) and activated carbon. <i>Chinese Journal of Chemical Engineering</i> , 2020, 28, 1964-1972.	3.5	6
93	Self-adjusting binding pockets enhance H <sub>2</sub> and CH <sub>4</sub> adsorption in a uranium-based metal-organic framework. <i>Chemical Science</i> , 2020, 11, 6709-6716.	7.4	25
94	Combustible ice mimicking behavior of hydrogen-bonded organic framework at ambient condition. <i>Nature Communications</i> , 2020, 11, 3124.	12.8	30
95	Arylboronic Acids and their Myriad of Applications Beyond Organic Synthesis. <i>European Journal of Organic Chemistry</i> , 2020, 2020, 4841-4877.	2.4	34

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96	Design, preparation and characterization of aerogel NiO@Cu@CoO/SiO <sub>2</sub> nanocomposite as a reusable catalyst for C–N cross-coupling reaction. <i>New Journal of Chemistry</i> , 2020, 44, 5056-5063.	2.8	13
97	Highly Hierarchical Fibrillar Biogenic Silica with Mesoporous Structure Derived from the Perennial Plant <i>Equisetum Fluvatile</i> . <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 35259-35265.	8.0	7
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100	Primary Adsorption Sites of Light Alkanes in Multivariate UiO-66 at Room Temperature as Revealed by Solid-State NMR. <i>Journal of Physical Chemistry C</i> , 2020, 124, 3738-3746.	3.1	12
101	Controlled release of H <sub>2</sub> S and NO gases through CO <sub>2</sub> -stimulated anion exchange. <i>Nature Communications</i> , 2020, 11, 453.	12.8	8
102	Anion-regulated selective growth ultrafine copper templates in carbon nanosheets network toward highly efficient gas capture. <i>Journal of Colloid and Interface Science</i> , 2020, 564, 296-302.	9.4	17
103	Charge-Separated Metal–Organic Frameworks Derived from Boron-Centered Tetrapods. <i>Crystal Growth and Design</i> , 2020, 20, 1598-1608.	3.0	5
104	Impact of Chemical Features on Methane Adsorption by Porous Materials at Varying Pressures. <i>Journal of Physical Chemistry C</i> , 2020, 124, 4534-4544.	3.1	29
105	Polyphenylene networks containing triptycene units: Promising porous materials for CO <sub>2</sub> , CH <sub>4</sub> , and H <sub>2</sub> adsorption. <i>Microporous and Mesoporous Materials</i> , 2020, 303, 110256.	4.4	13
106	Adsorption-induced two-way nanoconvection enhances nucleation and growth kinetics of methane hydrates in confined porespace. <i>Chemical Engineering Journal</i> , 2020, 396, 125256.	12.7	44
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108	Balancing volumetric and gravimetric uptake in highly porous materials for clean energy. <i>Science</i> , 2020, 368, 297-303.	12.6	429
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111	Gas Storage in Porous Molecular Materials. <i>Chemistry - A European Journal</i> , 2021, 27, 4531-4547.	3.3	30
112	Probing adsorbent heterogeneity using Toth isotherms. <i>Journal of Materials Chemistry A</i> , 2021, 9, 944-962.	10.3	12
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115	Gas hydrates in confined space of nanoporous materials: new frontier in gas storage technology. Nanoscale, 2021, 13, 7447-7470.	5.6	28
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117	Studying of the adsorption and diffusion behaviors of methane on graphene oxide by molecular dynamics simulation. Journal of Molecular Modeling, 2021, 27, 59.	1.8	17
118	CARS Diagnostics of Molecular Fluid Phase Behavior in Nanoporous Glasses. Springer Series in Chemical Physics, 2021, , 121-147.	0.2	0
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128	The Concentration of C(sp <sup>3</sup> ) Atoms and Properties of an Activated Carbon with over 3000 m <sup>2</sup> /g BET Surface Area. Nanomaterials, 2021, 11, 1324.	4.1	11
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150	Modulating the porosity of carbons for improved adsorption of hydrogen, carbon dioxide, and methane: a review. Materials Advances, 2022, 3, 1905-1930.	5.4	21

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154	Investigation of the densification and heat conducting enhancement measures on MIL-101 and its composite for hydrogen storage by adsorption. International Journal of Hydrogen Energy, 2022, 47, 9958-9958.	7.1	3
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156	Two bis-ligand-coordinated Zn(II)-MOFs for luminescent sensing of ions, antibiotics and pesticides in aqueous solutions. RSC Advances, 2022, 12, 7780-7788.	3.6	15
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