Rajamani Krishna

List of Publications by Year
in descending order

365	36,085	3288	3857
papers	citations	93 h-index	178 g-index

375	375	375	19453
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Evaluating metalâ€“organic frameworks for post-combustion carbon dioxide capture via temperature swing adsorption. Energy and Environmental Science, 2011, 4, 3030.	32.2	923
2	Microporous metal-organic framework with potential for carbon dioxide capture at ambient conditions. Nature Communications, 2012, 3, 954.	13.2	733
3	Metalâ€“organic frameworks with potential for energy-efficient adsorptive separation of light hydrocarbons. Energy and Environmental Science, 2012, 5, 9107.	32.2	621
4	Twoâ€Dimensional Covalent Organic Frameworks for Carbon Dioxide Capture through Channelâ€Wall Functionalization. Angewandte Chemie - International Edition, 2015, 54, 2986-2990.	14.8	602
5	Molecular sieving of ethylene from ethane using a rigid metalâ€“organic framework. Nature Materials, 2018, 17, 1128-1133.	26.6	570
6	Potential of microporous metalâ€“organic frameworks for separation of hydrocarbon mixtures. Energy and Environmental Science, 2016, 9, 3612-3641.	32.2	559
7	Sulfonate-Grafted Porous Polymer Networks for Preferential CO₂ Adsorption at Low Pressure. Journal of the American Chemical Society, 2011, 133, 18126-18129.	14.6	535
8	Polyamineâ€Tethered Porous Polymer Networks for Carbon Dioxide Capture from Flue Gas. Angewandte Chemie - International Edition, 2012, 51, 7480-7484.	14.8	530
9	Porous Polymer Networks: Synthesis, Porosity, and Applications in Gas Storage/Separation. Chemistry of Materials, 2010, 22, 5964-5972.	7.1	521
10	UTSA-74: A MOF-74 Isomer with Two Accessible Binding Sites per Metal Center for Highly Selective Gas Separation. Journal of the American Chemical Society, 2016, 138, 5678-5684.	14.6	501
11	Enhanced carbon dioxide capture upon incorporation of N,Nâ€²-dimethylethylenediamine in the metalâ€“organic framework CuBTTri. Chemical Science, 2011, 2, 2022.	7.8	497
12	Selective Binding of O₂ over N₂ in a Redoxâ€“Active Metalâ€“Organic Framework with Open Iron(II) Coordination Sites. Journal of the American Chemical Society, 2011, 133, 14814-14822.	14.6	486
13	Metalâ^'Organic Frameworks as Adsorbents for Hydrogen Purification and Precombustion Carbon Dioxide Capture. Journal of the American Chemical Society, 2011, 133, 5664-5667.	14.6	475
14	Microporous metalâ€“organic framework with dual functionalities for highly efficient removal of acetylene from ethylene/acetylene mixtures. Nature Communications, 2015, 6, 7328.	13.2	414
15	Ethene/ethane separation by the MOF membrane ZIF-8: Molecular correlation of permeation, adsorption, diffusion. Journal of Membrane Science, 2011, 369, 284-289.	8.3	392
16	Introduction of Ï€-Complexation into Porous Aromatic Framework for Highly Selective Adsorption of Ethylene over Ethane. Journal of the American Chemical Society, 2014, 136, 8654-8660.	14.6	391
17	An Adsorbate Discriminatory Gate Effect in a Flexible Porous Coordination Polymer for Selective Adsorption of CO₂ over C₂H₂. Journal of the American Chemical Society, 2016, 138, 3022-3030.	14.6	379
18	Tailor-Made Pore Surface Engineering in Covalent Organic Frameworks: Systematic Functionalization for Performance Screening. Journal of the American Chemical Society, 2015, 137, 7079-7082.	14.6	366

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19	Pore Space Partition within a Metalâ€“Organic Framework for Highly Efficient C₂H₂/CO₂ Separation. Journal of the American Chemical Society, 2019, 141, 4130-4136.	14.6	365
20	A Rodâ€Packing Microporous Hydrogenâ€Bonded Organic Framework for Highly Selective Separation of C₂H₂/CO₂ at Room Temperature. Angewandte Chemie - International Edition, 2015, 54, 574-577.	14.8	354
21	Potential of Metalâ€“Organic Frameworks for Separation of Xenon and Krypton. Accounts of Chemical Research, 2015, 48, 211-219.	16.6	345
22	Interplay of Metalloligand and Organic Ligand to Tune Micropores within Isostructural Mixed-Metal Organic Frameworks (Mâ€²MOFs) for Their Highly Selective Separation of Chiral and Achiral Small Molecules. Journal of the American Chemical Society, 2012, 134, 8703-8710.	14.6	332
23	Mixed Metalâ€“Organic Framework with Multiple Binding Sites for Efficient C₂H₂/CO₂Separation. Angewandte Chemie - International Edition, 2020, 59, 4396-4400.	14.8	326
24	An Ideal Molecular Sieve for Acetylene Removal from Ethylene with Record Selectivity and Productivity. Advanced Materials, 2017, 29, 1704210.	24.3	324
25	In silico screening of metalâ€“organic frameworks in separation applications. Physical Chemistry Chemical Physics, 2011, 13, 10593.	2.9	309
26	Microporous metalâ€“organic frameworks for storage and separation of small hydrocarbons. Chemical Communications, 2012, 48, 11813.	4.2	300
27	In silico screening of zeolite membranes for CO2 capture. Journal of Membrane Science, 2010, 360, 323-333.	8.3	283
28	Exceptional Hydrophobicity of a Large-Pore Metalâ€“Organic Zeolite. Journal of the American Chemical Society, 2015, 137, 7217-7223.	14.6	280
29	Describing the Diffusion of Guest Molecules Inside Porous Structures. Journal of Physical Chemistry C, 2009, 113, 19756-19781.	3.3	268
30	Understanding the Role of Sodium during Adsorption:Â A Force Field for Alkanes in Sodium-Exchanged Faujasites. Journal of the American Chemical Society, 2004, 126, 11377-11386.	14.6	259
31	Hydrodynamics of Taylor Flow in Vertical Capillaries:Â Flow Regimes, Bubble Rise Velocity, Liquid Slug Length, and Pressure Drop. Industrial & Engineering Chemistry Research, 2005, 44, 4884-4897.	3.8	254
32	Flexibleâ€“Robust Metalâ€“Organic Framework for Efficient Removal of Propyne from Propylene. Journal of the American Chemical Society, 2017, 139, 7733-7736.	14.6	253
33	A Chemically Stable Hofmannâ€Type Metalâ^'Organic Framework with Sandwichâ€Like Binding Sites for Benchmark Acetylene Capture. Advanced Materials, 2020, 32, e1908275.	24.3	253
34	A multicomponent film model incorporating a general matrix method of solution to the Maxwell-Stefan equations. AICHE Journal, 1976, 22, 383-389.	3.6	241
35	Diffusion in porous crystalline materials. Chemical Society Reviews, 2012, 41, 3099.	40.3	241
36	Modeling of Diffusion in Zeolites. Reviews in Chemical Engineering, 2000, 16, .	4.8	231

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37	A robust doubly interpenetrated metalâ€“organic framework constructed from a novel aromatic tricarboxylate for highly selective separation of small hydrocarbons. Chemical Communications, 2012, 48, 6493.	4.2	228
38	Novel MOFâ€Membrane for Molecular Sieving Predicted by IRâ€Diffusion Studies and Molecular Modeling. Advanced Materials, 2010, 22, 4741-4743.	24.3	226
39	Pore-Space-Partition-Enabled Exceptional Ethane Uptake and Ethane-Selective Ethaneâ€“Ethylene Separation. Journal of the American Chemical Society, 2020, 142, 2222-2227.	14.6	218
40	Induced Fit of C₂H₂ in a Flexible MOF Through Cooperative Action of Open Metal Sites. Angewandte Chemie - International Edition, 2019, 58, 8515-8519.	14.8	217
41	Molecular Sieving of Ethane from Ethylene through the Molecular Crossâ€Section Size Differentiation in Gallateâ€based Metalâ€“Organic Frameworks. Angewandte Chemie - International Edition, 2018, 57, 16020-16025.	14.8	215
42	A robust Th-azole framework for highly efficient purification of C2H4 from a C2H4/C2H2/C2H6 mixture. Nature Communications, 2020, 11, 3163.	13.2	215
43	A Microporous Metalâ€“Organic Framework for Highly Selective Separation of Acetylene, Ethylene, and Ethane from Methane at Room Temperature. Chemistry - A European Journal, 2012, 18, 613-619.	3.9	208
44	Selective Ethane/Ethylene Separation in a Robust Microporous Hydrogen-Bonded Organic Framework. Journal of the American Chemical Society, 2020, 142, 633-640.	14.6	206
45	Transferable Force Field for Carbon Dioxide Adsorption in Zeolites. Journal of Physical Chemistry C, 2009, 113, 8814-8820.	3.3	205
46	An Ultramicroporous Metalâ€“Organic Framework for High Sieving Separation of Propylene from Propane. Journal of the American Chemical Society, 2020, 142, 17795-17801.	14.6	203
47	Metalâ€“Organic Framework Based Hydrogen-Bonding Nanotrap for Efficient Acetylene Storage and Separation. Journal of the American Chemical Society, 2022, 144, 1681-1689.	14.6	202
48	Screening Metalâ€“Organic Frameworks by Analysis of Transient Breakthrough of Gas Mixtures in a Fixed Bed Adsorber. Journal of Physical Chemistry C, 2011, 115, 12941-12950.	3.3	199
49	Ultrahigh and Selective SO₂ Uptake in Inorganic Anionâ€Pillared Hybrid Porous Materials. Advanced Materials, 2017, 29, 1606929.	24.3	199
50	Entropy effects during sorption of alkanes in zeolites. Chemical Society Reviews, 2002, 31, 185-194.	40.3	197
51	Microimaging of transient guest profiles to monitor mass transfer in nanoporous materials. Nature Materials, 2014, 13, 333-343.	26.6	192
52	Tuning Gateâ€Opening of a Flexible Metalâ€“Organic Framework for Ternary Gas Sieving Separation. Angewandte Chemie - International Edition, 2020, 59, 22756-22762.	14.8	188
53	High CO₂/N₂/O₂/CO separation in a chemically robust porous coordination polymer with low binding energy. Chemical Science, 2014, 5, 660-666.	7.8	184
54	Direct Observation of Xe and Kr Adsorption in a Xe-Selective Microporous Metalâ€“Organic Framework. Journal of the American Chemical Society, 2015, 137, 7007-7010.	14.6	184

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55	The Maxwellâ€“Stefan description of mixture diffusion in nanoporous crystalline materials. Microporous and Mesoporous Materials, 2014, 185, 30-50.	4.5	179
56	Correlation Effects in Diffusion of CH4/CF4Mixtures in MFI Zeolite. A Study Linking MD Simulations with the Maxwellâ^'Stefan Formulation. Langmuir, 2003, 19, 7977-7988.	3.7	178
57	Gas holdup in slurry bubble columns: Effect of column diameter and slurry concentrations. AICHE Journal, 1997, 43, 311-316.	3.6	168
58	Enhanced Gas Uptake in a Microporous Metalâ€“Organic Framework via a Sorbate Induced-Fit Mechanism. Journal of the American Chemical Society, 2019, 141, 17703-17712.	14.6	158
59	Carbon Dioxide Capture from Air Using Amine-Grafted Porous Polymer Networks. Journal of Physical Chemistry C, 2013, 117, 4057-4061.	3.3	156
60	A microporous six-fold interpenetrated hydrogen-bonded organic framework for highly selective separation of C₂H₄/C₂H₆. Chemical Communications, 2014, 50, 13081-13084.	4.2	154
61	Highly selective adsorption of ethylene over ethane in a MOF featuring the combination of open metal site and Ï€-complexation. Chemical Communications, 2015, 51, 2714-2717.	4.2	153
62	A comparison of the CO2 capture characteristics of zeolites and metalâ€“organic frameworks. Separation and Purification Technology, 2012, 87, 120-126.	8.1	152
63	Gas holdup in bubble column reactors operating in the churn-turbulent flow regime. AICHE Journal, 1996, 42, 2627-2634.	3.6	151
64	Multiple solutions in reactive distillation for methyl tert-butyl ether synthesis. Industrial & Engineering Chemistry Research, 1993, 32, 1706-1709.	3.8	149
65	Significant Enhancement of C₂H₂/C₂H₄ Separation by a Photochromic Diarylethene Unit: A Temperatureâ€•and Lightâ€Responsive Separation Switch. Angewandte Chemie - International Edition, 2017, 56, 7900-7906.	14.8	149
66	Screening metalâ€“organic frameworks for mixture separations in fixed-bed adsorbers using a combined selectivity/capacity metric. RSC Advances, 2017, 7, 35724-35737.	3.7	143
67	High Separation Capacity and Selectivity of C₂ Hydrocarbons over Methane within a Microporous Metalâ€“Organic Framework at Room Temperature. Chemistry - A European Journal, 2012, 18, 1901-1904.	3.9	142
68	Methodologies for evaluation of metalâ€“organic frameworks in separation applications. RSC Advances, 2015, 5, 52269-52295.	3.7	141
69	A Metalâ€“Organic Framework with Suitable Pore Size and Specific Functional Sites for the Removal of Trace Propyne from Propylene. Angewandte Chemie - International Edition, 2018, 57, 15183-15188.	14.8	137
70	A metalâ€“organic framework with suitable pore size and dual functionalities for highly efficient post-combustion CO₂ capture. Journal of Materials Chemistry A, 2019, 7, 3128-3134.	10.5	137
71	Methane storage mechanism in the metal-organic framework Cu3(btc)2: An in situ neutron diffraction study. Microporous and Mesoporous Materials, 2010, 136, 50-58.	4.5	136
72	A microporous lanthanide-tricarboxylate framework with the potential for purification of natural gas. Chemical Communications, 2012, 48, 10856.	4.2	136

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73	Natural Gas Purification Using a Porous Coordination Polymer with Water and Chemical Stability. Inorganic Chemistry, 2015, 54, 4279-4284.	4.2	135
74	Twoâ€Dimensional Covalent Organic Frameworks for Carbon Dioxide Capture through Channelâ€Wall Functionalization. Angewandte Chemie, 2015, 127, 3029-3033.	2.1	134
75	Hydrogen Bonding Effects in Adsorption of Waterâ^'Alcohol Mixtures in Zeolites and the Consequences for the Characteristics of the Maxwellâ^'Stefan Diffusivities. Langmuir, 2010, 26, 10854-10867.	3.7	133
76	CO2/CH4, CH4/H2 and CO2/CH4/H2 separations at high pressures using Mg2(dobdc). Microporous and Mesoporous Materials, 2012, 151, 481-487.	4.5	126
77	A Rodâ€Packing Hydrogenâ€Bonded Organic Framework with Suitable Pore Confinement for Benchmark Ethane/Ethylene Separation. Angewandte Chemie - International Edition, 2021, 60, 10304-10310.	14.8	124
78	Rational Design of Microporous MOFs with Anionic Boron Cluster Functionality and Cooperative Dihydrogen Binding Sites for Highly Selective Capture of Acetylene. Angewandte Chemie - International Edition, 2020, 59, 17664-17669.	14.8	120
79	A Metalâ€“Organic Framework with Suitable Pore Size and Specific Functional Sites for the Removal of Trace Propyne from Propylene. Angewandte Chemie, 2018, 130, 15403-15408.	2.1	118
80	A Rodâ€Packing Microporous Hydrogenâ€Bonded Organic Framework for Highly Selective Separation of C₂H₂/CO₂ at Room Temperature. Angewandte Chemie, 2015, 127, 584-587.	2.1	115
81	Extraordinary Separation of Acetyleneâ€Containing Mixtures with Microporous Metalâ€“Organic Frameworks with Open O Donor Sites and Tunable Robustness through Control of the Helical Chain Secondary Building Units. Chemistry - A European Journal, 2016, 22, 5676-5683.	3.9	114
82	Uphill diffusion in multicomponent mixtures. Chemical Society Reviews, 2015, 44, 2812-2836.	40.3	112
83	Interpenetration Symmetry Control Within Ultramicroporous Robust Boron Cluster Hybrid MOFs for Benchmark Purification of Acetylene from Carbon Dioxide. Angewandte Chemie - International Edition, 2021, 60, 22865-22870.	14.8	110
84	Nonequilibrium Molecular Dynamics Simulations of Diffusion of Binary Mixtures Containing Shortn-Alkanes in Faujasite. Journal of Physical Chemistry B, 2004, 108, 13481-13491.	2.7	109
85	Fluorocarbon adsorption in hierarchical porous frameworks. Nature Communications, 2014, 5, 4368.	13.2	109
86	Optimal Pore Chemistry in an Ultramicroporous Metalâ€“Organic Framework for Benchmark Inverse CO₂/C₂H₂ Separation. Angewandte Chemie - International Edition, 2021, 60, 17198-17204.	14.8	109
87	Kr/Xe Separation over a Chabazite Zeolite Membrane. Journal of the American Chemical Society, 2016, 138, 9791-9794.	14.6	106
88	Enhanced CO₂sorption and selectivity by functionalization of a NbO-type metalâ€“organic framework with polarized benzothiadiazole moieties. Chemical Communications, 2014, 50, 12105-12108.	4.2	105
89	Separating Xylene Isomers by Commensurate Stacking of pâ€Xylene within Channels of MAFâ€X8. Angewandte Chemie - International Edition, 2014, 53, 7774-7778.	14.8	99
90	Methodologies for screening and selection of crystalline microporous materials in mixture separations. Separation and Purification Technology, 2018, 194, 281-300.	8.1	95

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91	Simultaneous interlayer and intralayer space control in two-dimensional metalâ˜organic frameworks for acetylene/ethylene separation. Nature Communications, 2020, 11, 6259.	13.2	95
92	A new metalâ€“organic framework with potential for adsorptive separation of methane from carbon dioxide, acetylene, ethylene, and ethane established by simulated breakthrough experiments. Journal of Materials Chemistry A, 2014, 2, 2628.	10.5	94
93	Light Hydrocarbon Adsorption Mechanisms in Two Calcium-Based Microporous Metal Organic Frameworks. Chemistry of Materials, 2016, 28, 1636-1646.	7.1	93
94	Thermosensitive gating effect and selective gas adsorption in a porous coordination nanocage. Chemical Communications, 2010, 46, 7352.	4.2	92
95	A molecular dynamics investigation of the diffusion characteristics of cavity-type zeolites with 8-ring windows. Microporous and Mesoporous Materials, 2011, 137, 83-91.	4.5	92
96	Hydrodynamics and mass transfer in bubble columns in operating in the churn-turbulent regime. Industrial & Engineering Chemistry Process Design and Development, 1981, 20, 475-482.	0.6	91
97	Efficient separation of ethylene from acetylene/ethylene mixtures by a flexible-robust metalâ€“organic framework. Journal of Materials Chemistry A, 2017, 5, 18984-18988.	10.5	91
98	Computerâ€Assisted Screening of Ordered Crystalline Nanoporous Adsorbents for Separation of Alkane Isomers. Angewandte Chemie - International Edition, 2012, 51, 11867-11871.	14.8	90
99	Guest-dependent pressure induced gate-opening effect enables effective separation of propene and propane in a flexible MOF. Chemical Engineering Journal, 2018, 346, 489-496.	13.0	89
100	A stable metalâ€“organic framework with suitable pore sizes and rich uncoordinated nitrogen atoms on the internal surface of micropores for highly efficient CO₂ capture. Journal of Materials Chemistry A, 2015, 3, 7361-7367.	10.5	87
101	Benchmark single-step ethylene purification from ternary mixtures by a customized fluorinated anion-embedded MOF. Nature Communications, 2023, 14, .	13.2	87
102	Investigating the potential of MgMOF-74 membranes for CO2 capture. Journal of Membrane Science, 2011, 377, 249-260.	8.3	85
103	Exploiting the gate opening effect in a flexible MOF for selective adsorption of propyne from C1/C2/C3 hydrocarbons. Journal of Materials Chemistry A, 2016, 4, 751-755.	10.5	85
104	A cationic microporous metalâ€“organic framework for highly selective separation of small hydrocarbons at room temperature. Journal of Materials Chemistry A, 2013, 1, 9916.	10.5	83
105	Assessing Surface Permeabilities from Transient Guest Profiles in Nanoporous Host Materials. Angewandte Chemie - International Edition, 2009, 48, 3525-3528.	14.8	82
106	The accessibility of nitrogen sites makes a difference in selective CO₂ adsorption of a family of isostructural metalâ€“organic frameworks. Journal of Materials Chemistry A, 2015, 3, 19417-19426.	10.5	82
107	Maxwellâ€“Stefan modeling of slowing-down effects in mixed gas permeation across porous membranes. Journal of Membrane Science, 2011, 383, 289-300.	8.3	81
108	Adsorptive separation of CO2/CH4/CO gas mixtures at high pressures. Microporous and Mesoporous Materials, 2012, 156, 217-223.	4.5	81

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109	Harnessing Lewis acidic open metal sites of metalâ€“organic frameworks: the foremost route to achieve highly selective benzene sorption over cyclohexane. Chemical Communications, 2016, 52, 8215-8218.	4.2	81
110	Assessing Guest Diffusivities in Porous Hosts from Transient Concentration Profiles. Physical Review Letters, 2009, 102, 065901.	8.0	77
111	Water-Stable Europium 1,3,6,8-Tetrakis(4-carboxylphenyl)pyrene Framework for Efficient C₂H₂/CO₂ Separation. Inorganic Chemistry, 2019, 58, 5089-5095.	4.2	76
112	Efficient Purification of Ethylene from C₂ Hydrocarbons with an C₂H₆/C₂H₂-Selective Metalâ€“Organic Framework. ACS Applied Materials & Interfaces, 2021, 13, 962-969.	8.3	76
113	Separating mixtures by exploiting molecular packing effects in microporous materials. Physical Chemistry Chemical Physics, 2015, 17, 39-59.	2.9	75
114	Molecular Sieving of Ethane from Ethylene through the Molecular Crossâ€Section Size Differentiation in Gallateâ€based Metalâ€“Organic Frameworks. Angewandte Chemie, 2018, 130, 16252-16257.	2.1	75
115	Investigating Cluster Formation in Adsorption of CO₂, CH₄, and Ar in Zeolites and Metal Organic Frameworks at Subcritical Temperatures. Langmuir, 2010, 26, 3981-3992.	3.7	74
116	Influence of adsorption thermodynamics on guest diffusivities in nanoporous crystalline materials. Physical Chemistry Chemical Physics, 2013, 15, 7994.	2.9	71
117	Robust Microporous Metalâ€“Organic Frameworks for Highly Efficient and Simultaneous Removal of Propyne and Propadiene from Propylene. Angewandte Chemie - International Edition, 2019, 58, 10209-10214.	14.8	71
118	Microporous Metalâ€“Organic Framework with Dual Functionalities for Efficient Separation of Acetylene from Light Hydrocarbon Mixtures. ACS Sustainable Chemistry and Engineering, 2019, 7, 4897-4902.	6.9	71
119	Cu-TDPAT, an rht-Type Dual-Functional Metalâ€“Organic Framework Offering Significant Potential for Use in H₂ and Natural Gas Purification Processes Operating at High Pressures. Journal of Physical Chemistry C, 2012, 116, 16609-16618.	3.3	68
120	Metalâ€“Organic Framework with Functional Amide Groups for Highly Selective Gas Separation. Crystal Growth and Design, 2013, 13, 2670-2674.	3.2	68
121	Expanded Organic Building Units for the Construction of Highly Porous Metalâ€“Organic Frameworks. Chemistry - A European Journal, 2013, 19, 14886-14894.	3.9	68
122	Constructing redox-active microporous hydrogen-bonded organic framework by imide-functionalization: Photochromism, electrochromism, and selective adsorption of C2H2 over CO2. Chemical Engineering Journal, 2020, 383, 123117.	13.0	68
123	Low-energy regeneration and high productivity in a lanthanideâ€“hexacarboxylate framework for high-pressure CO2â€“CH4â€“H2 separation. Chemical Communications, 2013, 49, 6773.	4.2	67
124	High acetylene/ethylene separation in a microporous zinc(<scp>ii</scp>) metalâ€“organic framework with low binding energy. Chemical Communications, 2016, 52, 1166-1169.	4.2	67
125	Comprehensive Pore Tuning in an Ultrastable Fluorinated Anion Crossâ€Linked Cageâ€Like MOF for Simultaneous Benchmark Propyne Recovery and Propylene Purification. Angewandte Chemie - International Edition, 2022, 61, .	14.8	67
126	Condensation of vapor mixtures. 1. Nonequilibrium models and design procedures. Industrial & Engineering Chemistry Process Design and Development, 1986, 25, 83-97.	0.6	66

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127	Polyamineâ€Tethered Porous Polymer Networks for Carbon Dioxide Capture from Flue Gas. Angewandte Chemie, 2012, 124, 7598-7602.	2.1	66
128	Nitrogen-rich microporous carbons for highly selective separation of light hydrocarbons. Journal of Materials Chemistry A, 2016, 4, 13957-13966.	10.5	66
129	Microporous Metalâ€“Organic Framework with a Completely Reversed Adsorption Relationship for C₂ Hydrocarbons at Room Temperature. ACS Applied Materials & Interfaces, 2020, 12, 6105-6111.	8.3	66
130	A Ï€-electron deficient diaminotriazine functionalized MOF for selective sorption of benzene over cyclohexane. Chemical Communications, 2015, 51, 15386-15389.	4.2	65
131	Metrics for Evaluation and Screening of Metalâ€“Organic Frameworks for Applications in Mixture Separations. ACS Omega, 2020, 5, 16987-17004.	3.6	64
132	Investigating the Relative Influences of Molecular Dimensions and Binding Energies on Diffusivities of Guest Species Inside Nanoporous Crystalline Materials. Journal of Physical Chemistry C, 2012, 116, 23556-23568.	3.3	63
133	A microporous metalâ€“organic framework assembled from an aromatic tetracarboxylate for H2 purification. Journal of Materials Chemistry A, 2013, 1, 2543.	10.5	63
134	Multicomponent reaction engineering model for Fe-catalyzed Fischerâ€“Tropsch synthesis in commercial scale slurry bubble column reactors. Chemical Engineering Science, 1999, 54, 5013-5019.	4.0	62
135	A microporous metalâ€“organic framework with rare lvt topology for highly selective C₂H₂/C₂H₄separation at room temperature. Chemical Communications, 2015, 51, 5610-5613.	4.2	62
136	Redoxâ€Active Metalâ€“Organic Composites for Highly Selective Oxygen Separation Applications. Advanced Materials, 2016, 28, 3572-3577.	24.3	62
137	Robust metalâ€“organic framework with multiple traps for trace Xe/Kr separation. Science Bulletin, 2021, 66, 1073-1079.	11.1	62
138	The Adsorption and Simulated Separation of Light Hydrocarbons in Isoreticular Metalâ€“Organic Frameworks Based on Dendritic Ligands with Different Aliphatic Side Chains. Chemistry - A European Journal, 2014, 20, 9073-9080.	3.9	61
139	Hindering effects in diffusion of CO2/CH4 mixtures in ZIF-8 crystals. Journal of Membrane Science, 2012, 397-398, 87-91.	8.3	60
140	Two Analogous Polyhedron-Based MOFs with High Density of Lewis Basic Sites and Open Metal Sites: Significant CO₂ Capture and Gas Selectivity Performance. ACS Applied Materials & Interfaces, 2017, 9, 32820-32828.	8.3	60
141	A combined theoretical and experimental analysis on transient breakthroughs of C2H6/C2H4 in fixed beds packed with ZIF-7. Microporous and Mesoporous Materials, 2015, 208, 55-65.	4.5	59
142	Newly designed 1,2,3-triazole functionalized covalent triazine frameworks with exceptionally high uptake capacity for both CO₂ and H₂. Journal of Materials Chemistry A, 2019, 7, 1055-1068.	10.5	59
143	Condensation of vapor mixtures. 2. Comparison with experiment. Industrial & Engineering Chemistry Process Design and Development, 1986, 25, 98-101.	0.6	58
144	Influence of increased gas density on hydrodynamics of bubble-column reactors. AICHE Journal, 1994, 40, 112-119.	3.6	58

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145	Relation between Pore Sizes of Protein Crystals and Anisotropic Solute Diffusivities. Journal of the American Chemical Society, 2005, 127, 875-879.	14.6	58
146	Highly Selective Water Adsorption in a Lanthanum Metalâ€“Organic Framework. Chemistry - A European Journal, 2014, 20, 7922-7925.	3.9	58
147	A Porous Zirconiumâ€Based Metalâ€Organic Framework with the Potential for the Separation of Butene Isomers. Chemistry - A European Journal, 2016, 22, 14988-14997.	3.9	58
148	Utilizing the Gate-Opening Mechanism in ZIF-7 for Adsorption Discrimination between N₂O and CO₂. Journal of Physical Chemistry C, 2014, 118, 17831-17837.	3.3	57
149	Liquid Dispersion in Large Diameter Bubble Columns, with and without Internals. Canadian Journal of Chemical Engineering, 2003, 81, 360-366.	1.8	56
150	Exploring the Effect of Ligand-Originated MOF Isomerism and Methoxy Group Functionalization on Selective Acetylene/Methane and Carbon Dioxide/Methane Adsorption Properties in Two NbO-Type MOFs. ACS Applied Materials & Interfaces, 2018, 10, 20559-20568.	8.3	56
151	Enhancing Gas Sorption and Separation Performance via Bisbenzimidazole Functionalization of Highly Porous Covalent Triazine Frameworks. ACS Applied Materials & Interfaces, 2018, 10, 26678-26686.	8.3	56
152	Highlighting a Variety of Unusual Characteristics of Adsorption and Diffusion in Microporous Materials Induced by Clustering of Guest Molecules. Langmuir, 2010, 26, 8450-8463.	3.7	55
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