

Katherine A Forrest

List of Publications by Year in descending order

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69
papers

6,196
citations

117625

34
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95266

68
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71
all docs

71
docs citations

71
times ranked

4682
citing authors

#	ARTICLE	IF	CITATIONS
1	Porous materials with optimal adsorption thermodynamics and kinetics for CO ₂ separation. <i>Nature</i> , 2013, 495, 80-84.	27.8	2,005
2	Robust Ultramicroporous Metal-Organic Frameworks with Benchmark Affinity for Acetylene. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 10971-10975.	13.8	365
3	Synergistic sorbent separation for one-step ethylene purification from a four-component mixture. <i>Science</i> , 2019, 366, 241-246.	12.6	360
4	A Stable Metal-Organic Framework Featuring a Local Buffer Environment for Carbon Dioxide Fixation. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 4657-4662.	13.8	283
5	Tuning Pore Size in Square Lattice Coordination Networks for Size-Selective Sieving of CO ₂ . <i>Angewandte Chemie - International Edition</i> , 2016, 55, 10268-10272.	13.8	237
6	A Metal-Organic Framework Based Methane Nanotrap for the Capture of Coal-Mine Methane. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 10138-10141.	13.8	181
7	A MOF-based Ultra-Strong Acetylene Nanotrap for Highly Efficient C ₂ H ₂ /CO ₂ Separation. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 5283-5288.	13.8	172
8	Metal-Organic Framework Based Hydrogen-Bonding Nanotrap for Efficient Acetylene Storage and Separation. <i>Journal of the American Chemical Society</i> , 2022, 144, 1681-1689.	13.7	172
9	Pore Engineering for One-Step Ethylene Purification from a Three-Component Hydrocarbon Mixture. <i>Journal of the American Chemical Society</i> , 2021, 143, 1485-1492.	13.7	143
10	Hybrid Ultra-Microporous Materials for Selective Xenon Adsorption and Separation. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 8285-8289.	13.8	137
11	Effect of ring rotation upon gas adsorption in SIFSIX-3-M (M = Fe, Ni) pillared square grid networks. <i>Chemical Science</i> , 2017, 8, 2373-2380.	7.4	121
12	Fine Tuning of MOF-505 Analogues To Reduce Low-Pressure Methane Uptake and Enhance Methane Working Capacity. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 11426-11430.	13.8	119
13	Highly Selective Separation of C ₂ H ₂ from CO ₂ by a New Dichromate-Based Hybrid Ultramicroporous Material. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 33395-33400.	8.0	116
14	Highly Selective CO ₂ Uptake in Uninodal 6-Connected α - <i>crmo</i> -Nets Based upon MO ₄ ² (M = Cr, Mo) Pillars. <i>Journal of the American Chemical Society</i> , 2012, 134, 19556-19559.	13.7	110
15	Nanospace Engineering of Metal-Organic Frameworks through Dynamic Spacer Installation of Multifunctionalities for Efficient Separation of Ethane from Ethane/Ethylene Mixtures. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 9680-9685.	13.8	89
16	Robust Ultramicroporous Metal-Organic Frameworks with Benchmark Affinity for Acetylene. <i>Angewandte Chemie</i> , 2018, 130, 11137-11141.	2.0	85
17	Simulation of the Mechanism of Gas Sorption in a Metal-Organic Framework with Open Metal Sites: Molecular Hydrogen in PCN-61. <i>Journal of Physical Chemistry C</i> , 2012, 116, 15538-15549.	3.1	76
18	Remote Stabilization of Copper Paddlewheel Based Molecular Building Blocks in Metal-Organic Frameworks. <i>Chemistry of Materials</i> , 2015, 27, 2144-2151.	6.7	72

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19	Robust Microporous Metal-Organic Frameworks for Highly Efficient and Simultaneous Removal of Propyne and Propadiene from Propylene. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 10209-10214.	13.8	69
20	Breaking the trade-off between selectivity and adsorption capacity for gas separation. <i>CheM</i> , 2021, 7, 3085-3098.	11.7	68
21	Crystal engineering of a family of hybrid ultramicroporous materials based upon interpenetration and dichromate linkers. <i>Chemical Science</i> , 2016, 7, 5470-5476.	7.4	66
22	One-step ethylene production from a four-component gas mixture by a single physisorbent. <i>Nature Communications</i> , 2021, 12, 6507.	12.8	64
23	Readily accessible shape-memory effect in a porous interpenetrated coordination network. <i>Science Advances</i> , 2018, 4, eaq1636.	10.3	61
24	Amino-Functionalised Hybrid Ultramicroporous Materials that Enable Single-Step Ethylene Purification from a Ternary Mixture. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 10902-10909.	13.8	56
25	Simulations of hydrogen sorption in rht-MOF-1: identifying the binding sites through explicit polarization and quantum rotation calculations. <i>Journal of Materials Chemistry A</i> , 2014, 2, 2088-2100.	10.3	55
26	Efficient CO ₂ Removal for Ultra-Pure CO Production by Two Hybrid Ultramicroporous Materials. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 3332-3336.	13.8	52
27	A MOF-based Ultra-Strong Acetylene Nano-Trap for Highly Efficient C ₂ H ₂ /CO ₂ Separation. <i>Angewandte Chemie</i> , 2021, 133, 5343-5348.	2.0	49
28	Self-Adjusting Metal-Organic Framework for Efficient Capture of Trace Xenon and Krypton. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	13.8	47
29	Tuning Pore Size in Square Lattice Coordination Networks for Size-Selective Sieving of CO ₂ . <i>Angewandte Chemie</i> , 2016, 128, 10424-10428.	2.0	43
30	Capturing the H ₂ -Metal Interaction in Mg-MOF-74 Using Classical Polarization. <i>Journal of Physical Chemistry C</i> , 2014, 118, 22683-22690.	3.1	40
31	A Polarizable and Transferable PHAST CO ₂ Potential for Materials Simulation. <i>Journal of Chemical Theory and Computation</i> , 2013, 9, 5421-5429.	5.3	39
32	Hybrid Ultra-Microporous Materials for Selective Xenon Adsorption and Separation. <i>Angewandte Chemie</i> , 2016, 128, 8425-8429.	2.0	38
33	Impact of partial interpenetration in a hybrid ultramicroporous material on C ₂ H ₂ /C ₂ H ₄ separation performance. <i>Chemical Communications</i> , 2018, 54, 3488-3491.	4.1	38
34	Investigating CO ₂ Sorption in SIFSIX-3-M (M = Fe, Co, Ni, Cu, Zn) through Computational Studies. <i>Crystal Growth and Design</i> , 2019, 19, 3732-3743.	3.0	35
35	Fine Tuning of MOF-505 Analogues To Reduce Low-Pressure Methane Uptake and Enhance Methane Working Capacity. <i>Angewandte Chemie</i> , 2017, 129, 11584-11588.	2.0	33
36	A Stable Metal-Organic Framework Featuring a Local Buffer Environment for Carbon Dioxide Fixation. <i>Angewandte Chemie</i> , 2018, 130, 4747-4752.	2.0	32

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37	A Metal-Organic Framework Based Methane Nano-trap for the Capture of Coal-Mine Methane. <i>Angewandte Chemie</i> , 2019, 131, 10244-10247.	2.0	28
38	Indium-Organic Framework with <i>soc</i> Topology as a Versatile Catalyst for Highly Efficient One-Pot Strecker Synthesis of \pm -aminonitriles. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 52023-52033.	8.0	28
39	Investigating H ₂ Sorption in a Fluorinated Metal-Organic Framework with Small Pores Through Molecular Simulation and Inelastic Neutron Scattering. <i>Langmuir</i> , 2015, 31, 7328-7336.	3.5	26
40	Molecular Sieving and Direct Visualization of CO ₂ in Binding Pockets of an Ultramicroporous Lanthanide Metal-Organic Framework Platform. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 23192-23197.	8.0	26
41	Efficient propyne/propadiene separation by microporous crystalline physisorbents. <i>Nature Communications</i> , 2021, 12, 5768.	12.8	26
42	Modeling PCN-61 and PCN-66: Isostructural <i>rht</i> -Metal-Organic Frameworks with Distinct CO ₂ Sorption Mechanisms. <i>Crystal Growth and Design</i> , 2014, 14, 5599-5607.	3.0	23
43	Dynamics of H ₂ adsorbed in porous materials as revealed by computational analysis of inelastic neutron scattering spectra. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 17141-17158.	2.8	23
44	Dramatic Effect of the Electrostatic Parameters on H ₂ Sorption in an M-MOF-74 Analogue. <i>Crystal Growth and Design</i> , 2016, 16, 867-874.	3.0	23
45	Comparing the mechanism and energetics of CO ₂ sorption in the SIFSIX series. <i>CrystEngComm</i> , 2017, 19, 3338-3347.	2.6	22
46	Experimental and theoretical investigations of the gas adsorption sites in <i>rht</i> -metal-organic frameworks. <i>CrystEngComm</i> , 2017, 19, 4646-4665.	2.6	20
47	Molecular Sieving of Acetylene from Ethylene in a Rigid Ultra-microporous Metal Organic Framework.. <i>Chemistry - A European Journal</i> , 2021, 27, 9446-9453.	3.3	20
48	Accurate H ₂ Sorption Modeling in the <i>rht</i> -MOF NOTT-112 Using Explicit Polarization. <i>Crystal Growth and Design</i> , 2016, 16, 6024-6032.	3.0	17
49	Theoretical Investigations of CO ₂ and H ₂ Sorption in Robust Molecular Porous Materials. <i>Langmuir</i> , 2016, 32, 11492-11505.	3.5	17
50	Hydrogen Adsorption in a Zeolitic Imidazolate Framework with <i>lta</i> Topology. <i>Journal of Physical Chemistry C</i> , 2018, 122, 15435-15445.	3.1	17
51	Insights into an intriguing gas sorption mechanism in a polar metal-organic framework with open-metal sites and narrow channels. <i>Chemical Communications</i> , 2014, 50, 7283-7286.	4.1	16
52	Robust Microporous Metal-Organic Frameworks for Highly Efficient and Simultaneous Removal of Propyne and Propadiene from Propylene. <i>Angewandte Chemie</i> , 2019, 131, 10315-10320.	2.0	16
53	Theoretical Insights into the Tuning of Metal Binding Sites of Paddlewheels in <i>rht</i> -Metal-Organic Frameworks. <i>ChemPhysChem</i> , 2015, 16, 3170-3179.	2.1	14
54	Toward an Understanding of the Propensity for Crystalline Hydrate Formation by Molecular Compounds. Part 2. <i>Crystal Growth and Design</i> , 2021, 21, 4927-4939.	3.0	13

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55	Efficient CO ₂ Removal for Ultra-Pure CO Production by Two Hybrid Ultramicroporous Materials. <i>Angewandte Chemie</i> , 2018, 130, 3390-3394.	2.0	12
56	An unusual H ₂ sorption mechanism in PCN-14: insights from molecular simulation. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 21421-21430.	2.8	11
57	Pore-Nanospace Engineering of Mixed-Ligand Metal-Organic Frameworks for High Adsorption of Hydrofluorocarbons and Hydrochlorofluorocarbons. <i>Chemistry of Materials</i> , 2022, 34, 5116-5124.	6.7	11
58	Amino-Functionalised Hybrid Ultramicroporous Materials that Enable Single-Step Ethylene Purification from a Ternary Mixture. <i>Angewandte Chemie</i> , 2021, 133, 10997-11004.	2.0	10
59	Nanospace Engineering of Metal-Organic Frameworks through Dynamic Spacer Installation of Multifunctionalities for Efficient Separation of Ethane from Ethane/Ethylene Mixtures. <i>Angewandte Chemie</i> , 2021, 133, 9766-9771.	2.0	9
60	Tuning the Selectivity between C ₂ H ₂ and CO ₂ in Molecular Porous Materials. <i>Langmuir</i> , 2021, 37, 13838-13845.	3.5	9
61	Investigating gas sorption in an <i>h</i> -metal-organic framework with 1,2,3-triazole groups. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 29204-29221.	2.8	8
62	MPMC and MCMD: Free High-Performance Simulation Software for Atomistic Systems. <i>Advanced Theory and Simulations</i> , 2019, 2, 1900113.	2.8	8
63	Self-Adjusting Metal-Organic Framework for Efficient Capture of Trace Xenon and Krypton. <i>Angewandte Chemie</i> , 2022, 134, .	2.0	5
64	Investigating H ₂ Adsorption in Isostructural Metal-Organic Frameworks M-CUK-1 (M = Co) <i>Tj ETQq 0 0 0 rgBT /Overlock</i> 14, 8126-8136.	8.0	5
65	Investigating C ₂ H ₂ Sorption in $[M_3(O)_2(CH)_6]$ (M = Mg, Mn) Through Theoretical Studies. <i>Crystal Growth and Design</i> , 2018, 18, 5342-5352.	3.0	2
66	Simulations of H ₂ Sorption in an Anthracene-Functionalized <i>h</i> -Metal-Organic Framework. <i>Journal of Physical Chemistry C</i> , 2020, 124, 13753-13764.	3.1	1
67	Frontispiz: A MOF-based Ultra-Strong Acetylene Nano-Trap for Highly Efficient C ₂ H ₂ /CO ₂ Separation. <i>Angewandte Chemie</i> , 2021, 133, .	2.0	1
68	InnenrÄ¼cktitelbild: A Metal-Organic Framework Based Methane Nano-Trap for the Capture of Coal-Mine Methane (<i>Angew. Chem.</i> 30/2019). <i>Angewandte Chemie</i> , 2019, 131, 10483-10483.	2.0	0
69	Frontispiece: A MOF-based Ultra-Strong Acetylene Nano-Trap for Highly Efficient C ₂ H ₂ /CO ₂ Separation. <i>Angewandte Chemie - International Edition</i> , 2021, 60, .	13.8	0