Aaron W Thornton

List of Publications by Year
in descending order

61 papers	5,188 citations	126858 33 h-index	123376 61 g-index
66 all docs	66 docs citations	66 times ranked	6648 citing authors

#	Article	IF	Citations
1	New synthetic routes towards MOF production at scale. Chemical Society Reviews, 2017, 46, 3453-3480.	18.7	649
2	Nanocrack-regulated self-humidifying membranes. Nature, 2016, 532, 480-483.	13.7	362
3	Hydrogen Storage Materials for Mobile and Stationary Applications: Current State of the Art. ChemSusChem, 2015, 8, 2789-2825.	3.6	302
4	Centimetre-scale micropore alignment in oriented polycrystalline metalâ€“organic framework films via heteroepitaxial growth. Nature Materials, 2017, 16, 342-348.	13.3	298
5	Ending Aging in Super Glassy Polymer Membranes. Angewandte Chemie - International Edition, 2014, 53, 5322-5326.	7.2	275
6	Efficient metal ion sieving in rectifying subnanochannels enabled by metalâ€“organic frameworks. Nature Materials, 2020, 19, 767-774.	13.3	275
7	A metal-organic framework with ultrahigh glass-forming ability. Science Advances, 2018, 4, eaao6827.	4.7	196
8	Gasâ€Separation Membranes Loaded with Porous Aromatic Frameworks that Improve with Age. Angewandte Chemie - International Edition, 2015, 54, 2669-2673.	7.2	175
9	Materials Genome in Action: Identifying the Performance Limits of Physical Hydrogen Storage. Chemistry of Materials, 2017, 29, 2844-2854.	3.2	169
10	Fast and selective fluoride ion conduction in sub-1-nanometer metal-organic framework channels. Nature Communications, 2019, 10, 2490.	5.8	158
11	Feasibility of zeolitic imidazolate framework membranes for clean energy applications. Energy and Environmental Science, 2012, 5, 7637.	15.6	154
12	Metal-organic framework glasses with permanent accessible porosity. Nature Communications, 2018, 9, 5042.	5.8	147
13	Defects in metalâ€“organic frameworks: a compromise between adsorption and stability?. Dalton Transactions, 2016, 45, 4352-4359.	1.6	140
14	Metalâ^'Organic Frameworks Impregnated with Magnesium-Decorated Fullerenes for Methane and Hydrogen Storage. Journal of the American Chemical Society, 2009, 131, 10662-10669.	6.6	134
15	Tuning microcavities in thermally rearranged polymer membranes for CO2 capture. Physical Chemistry Chemical Physics, 2012, 14, 4365.	1.3	126
16	Lithiated Porous Aromatic Frameworks with Exceptional Gas Storage Capacity. Angewandte Chemie - International Edition, 2012, 51, 6639-6642.	7.2	112
17	Cavity size, sorption and transport characteristics of thermally rearranged (TR) polymers. Polymer, 2011, 52, 2244-2254.	1.8	97
18	Feasibility of Mixed Matrix Membrane Gas Separations Employing Porous Organic Cages. Journal of Physical Chemistry C, 2014, 118, 1523-1529.	1.5	84

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19	Lithium Extraction by Emerging Metalâ€"Organic Frameworkâ€Based Membranes. Advanced Functional Materials, 2021, 31, 2105991.	7.8	79
20	Porosity in metalâ€"organic framework glasses. Chemical Communications, 2016, 52, 3750-3753.	2.2	76
21	AIMs: a new strategy to control physical aging and gas transport in mixed-matrix membranes. Journal of Materials Chemistry A, 2015, 3, 15241-15247.	5.2	72
22	Predicting gas diffusion regime within pores of different size, shape and composition. Journal of Membrane Science, 2009, 336, 101-108.	4.1	69
23	New relation between diffusion and free volume: I. Predicting gas diffusion. Journal of Membrane Science, 2009, 338, 29-37.	4.1	69
24	Flux melting of metalâ€"organic frameworks. Chemical Science, 2019, 10, 3592-3601.	3.7	67
25	Enhancing selective CO2 adsorption via chemical reduction of a redox-active metalâ€"organic framework. Dalton Transactions, 2013, 42, 9831.	1.6	64
26	Visible Light-Triggered Capture and Release of CO₂ from Stable Metal Organic Frameworks. Chemistry of Materials, 2015, 27, 7882-7888.	3.2	54
27	Aqueous Molecular Sieving and Strong Gas Adsorption in Highly Porous MOFs with a Facile Synthesis. Chemistry of Materials, 2012, 24, 4647-4652.	3.2	49
28	Molecular Design of Amorphous Porous Organic Cages for Enhanced Gas Storage. Journal of Physical Chemistry C, 2015, 119, 7746-7754.	1.5	44
29	High Performance Hydrogen Storage from Be-BTB Metalâ€"Organic Framework at Room Temperature. Langmuir, 2013, 29, 8524-8533.	1.6	41
30	Computational identification of organic porous molecular crystals. CrystEngComm, 2016, 18, 4133-4141.	1.3	39
31	Membranes with artificial free-volume for biofuel production. Nature Communications, 2015, 6, 7529.	5.8	38
32	Towards computational design of zeolite catalysts for CO₂ reduction. RSC Advances, 2015, 5, 44361-44370.	1.7	38
33	A Pilotâ€Scale Demonstration of Mobile Direct Air Capture Using Metalâ€Organic Frameworks. Advanced Sustainable Systems, 2020, 4, 2000101.	2.7	37
34	Gasâ€Separation Membranes Loaded with Porous Aromatic Frameworks that Improve with Age. Angewandte Chemie, 2015, 127, 2707-2711.	1.6	33
35	Vacancy Diffusion with Time-Dependent Length Scale: An Insightful New Model for Physical Aging in Polymers. Industrial & Engineering Chemistry Research, 2010, 49, 12119-12124.	1.8	31
36	New relation between diffusion and free volume: II. Predicting vacancy diffusion. Journal of Membrane Science, 2009, 338, 38-42.	4.1	30

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37	Ultramicroporous MOF with High Concentration of Vacant Cu^{II} Sites. Chemistry of Materials, 2014, 26, 4640-4646.	3.2	29
38	Ultrathin poly (vinyl alcohol)/MXene nanofilm composite membrane with facile intrusion-free construction for pervaporative separations. Journal of Membrane Science, 2020, 614, 118490.	4.1	27
39	Structure retention in cross-linked poly(ethylene glycol) diacrylate hydrogel templated from a hexagonal lyotropic liquid crystal by controlling the surface tension. Soft Matter, 2012, 8, 2087-2094.	1.2	26
40	A flexible copper based microporous metalâ€“organic framework displaying selective adsorption of hydrogen over nitrogen. Dalton Transactions, 2011, 40, 3398.	1.6	22
41	A Multifunctional, Chargeâ€Neutral, Chiral Octahedral M₁₂L₁₂ Cage. Chemistry - A European Journal, 2019, 25, 8489-8493.	1.7	21
42	Analytical Diffusion Mechanism (ADiM) model combining specular, Knudsen and surface diffusion. Journal of Membrane Science, 2015, 485, 1-9.	4.1	18
43	High-Throughput Screening of Metalâ€“Organic Frameworks for Macroscale Heteroepitaxial Alignment. ACS Applied Materials & Interfaces, 2018, 10, 40938-40950.	4.0	18
44	Analytical representation of micropores for predicting gas adsorption in porous materials. Microporous and Mesoporous Materials, 2013, 167, 188-197.	2.2	17
45	Porous Aromatic Frameworks Impregnated with Lithiated Fullerenes for Natural Gas Purification. Journal of Physical Chemistry C, 2015, 119, 9347-9354.	1.5	17
46	Architecturing Nanospace via Thermal Rearrangement for Highly Efficient Gas Separations. Journal of Physical Chemistry C, 2013, 117, 24654-24661.	1.5	14
47	Interpenetrated Zirconiumâ€“Organic Frameworks: Small Cavities versus Functionalization for CO₂ Capture. Journal of Physical Chemistry C, 2016, 120, 13013-13023.	1.5	13
48	Molecular Insight into Assembly Mechanisms of Porous Aromatic Frameworks. Journal of Physical Chemistry C, 2017, 121, 16381-16392.	1.5	13
49	Simultaneous Microfabrication and Tuning of the Permselective Properties in Microporous Polymers Using Xâ€ray Lithography. Small, 2013, 9, 2277-2282.	5.2	12
50	Porous Aromatic Frameworks Impregnated with Fullerenes for Enhanced Methanol/Water Separation. Langmuir, 2014, 30, 14621-14630.	1.6	12
51	In situ small angle X-ray scattering investigation of the thermal expansion and related structural information of carbon nanotube composites. Progress in Natural Science: Materials International, 2012, 22, 673-683.	1.8	11
52	Strategies toward Enhanced Low-Pressure Volumetric Hydrogen Storage in Nanoporous Cryoadsorbents. Langmuir, 2013, 29, 15689-15697.	1.6	11
53	Role of free volume in molecular mobility and performance of glassy polymers for corrosion-protective coatings. Corrosion Engineering Science and Technology, 2020, 55, 145-158.	0.7	11
54	Massive in Silico Study of Noble Gas Binding to the Structural Proteome. Journal of Chemical Information and Modeling, 2019, 59, 4844-4854.	2.5	9

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55	Hierarchical Nature of Nanoscale Porosity in Bone Revealed by Positron Annihilation Lifetime Spectroscopy. ACS Nano, 2021, 15, 4321-4334.	7.3	8
56	Decoding the Rich Biological Properties of Noble Gases: How Well Can We Predict Noble Gas Binding to Diverse Proteins?. ChemMedChem, 2018, 13, 1931-1938.	1.6	6
57	Semi-analytical solutions for a Grayâ€“Scott reactionâ€“diffusion cell with an applied electric field. Chemical Engineering Science, 2008, 63, 495-502.	1.9	5
58	Predicting particle transport through an aging polymer using vacancy diffusion. Current Applied Physics, 2008, 8, 501-503.	1.1	2
59	Modelling hydrogen adsorption within spherical, cylindrical and slitâ€shaped cavities. , 2009, , .		0
60	Metal organic frameworks with exceptional gas storage capacity. , 2010, , .		0
61	ANALYTICAL REPRESENTATIONS OF REGULAR-SHAPED NANOSTRUCTURES FOR GAS STORAGE APPLICATIONS. ANZIAM Journal, 2015, 57, 43-61.	0.3	0