## Cara M Doherty

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Biomimetic mineralization of metal-organic frameworks as protective coatings for biomacromolecules. Nature Communications, 2015, 6, 7240.	12.8	1,077
2	MOF positioning technology and device fabrication. Chemical Society Reviews, 2014, 43, 5513-5560.	38.1	600
3	Nanocrack-regulated self-humidifying membranes. Nature, 2016, 532, 480-483.	27.8	362
4	Discriminative Separation of Gases by a "Molecular Trapdoor―Mechanism in Chabazite Zeolites. Journal of the American Chemical Society, 2012, 134, 19246-19253.	13.7	321
5	Ending Aging in Super Glassy Polymer Membranes. Angewandte Chemie - International Edition, 2014, 53, 5322-5326.	13.8	275
6	Using Functional Nano- and Microparticles for the Preparation of Metal–Organic Framework Composites with Novel Properties. Accounts of Chemical Research, 2014, 47, 396-405.	15.6	264
7	Thermally Rearranged (TR) Polybenzoxazole: Effects of Diverse Imidization Routes on Physical Properties and Gas Transport Behaviors. Macromolecules, 2010, 43, 7657-7667.	4.8	226
8	A metal-organic framework with ultrahigh glass-forming ability. Science Advances, 2018, 4, eaao6827.	10.3	196
9	Hierarchically Porous Monolithic LiFePO <sub>4</sub> /Carbon Composite Electrode Materials for High Power Lithium Ion Batteries. Chemistry of Materials, 2009, 21, 5300-5306.	6.7	189
10	Colloidal Crystal Templating to Produce Hierarchically Porous LiFePO4 Electrode Materials for High Power Lithium Ion Batteries. Chemistry of Materials, 2009, 21, 2895-2903.	6.7	163
11	Coordination cages as permanently porous ionic liquids. Nature Chemistry, 2020, 12, 270-275.	13.6	151
12	Metal-organic framework glasses with permanent accessible porosity. Nature Communications, 2018, 9, 5042.	12.8	147
13	Homochiral MOF–Polymer Mixed Matrix Membranes for Efficient Separation of Chiral Molecules. Angewandte Chemie - International Edition, 2019, 58, 16928-16935.	13.8	141
14	Metal–organic frameworks for chemical sensing devices. Materials Horizons, 2021, 8, 2387-2419.	12.2	139
15	The effect of crosslinking temperature on the permeability of PDMS membranes: Evidence of extraordinary CO2 and CH4 gas permeation. Separation and Purification Technology, 2014, 122, 96-104.	7.9	128
16	Tuning microcavities in thermally rearranged polymer membranes for CO2 capture. Physical Chemistry Chemical Physics, 2012, 14, 4365.	2.8	126
17	Highly Selective and Permeable Microporous Polymer Membranes for Hydrogen Purification and CO <sub>2</sub> Removal from Natural Gas. Chemistry of Materials, 2018, 30, 5322-5332.	6.7	121
18	Lithiated Porous Aromatic Frameworks with Exceptional Gas Storage Capacity. Angewandte Chemie - International Edition, 2012, 51, 6639-6642.	13.8	112

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19	Cross-Linked Thermally Rearranged Poly(benzoxazole- <i>co</i> -imide) Membranes for Gas Separation. Macromolecules, 2013, 46, 8179-8189.	4.8	112
20	Patterning Techniques for Metal Organic Frameworks. Advanced Materials, 2012, 24, 3153-3168.	21.0	111
21	Tailoring Physical Aging in Super Glassy Polymers with Functionalized Porous Aromatic Frameworks for CO <sub>2</sub> Capture. Chemistry of Materials, 2015, 27, 4756-4762.	6.7	107
22	Hypercrosslinked Additives for Ageless Gasâ€Separation Membranes. Angewandte Chemie - International Edition, 2016, 55, 1998-2001.	13.8	105
23	Nafion–Carbon Nanocomposite Membranes Prepared Using Hydrothermal Carbonization for Protonâ€Exchangeâ€Membrane Fuel Cells. Advanced Functional Materials, 2010, 20, 4394-4399.	14.9	99
24	Combining UV Lithography and an Imprinting Technique for Patterning Metalâ€Organic Frameworks. Advanced Materials, 2013, 25, 4701-4705.	21.0	98
25	Cavity size, sorption and transport characteristics of thermally rearranged (TR) polymers. Polymer, 2011, 52, 2244-2254.	3.8	97
26	Transparent, Highly Insulating Polyethyl- and Polyvinylsilsesquioxane Aerogels: Mechanical Improvements by Vulcanization for Ambient Pressure Drying. Chemistry of Materials, 2016, 28, 6860-6868.	6.7	96
27	Encapsulation, Visualization and Expression of Genes with Biomimetically Mineralized Zeolitic Imidazolate Frameworkâ€8 (ZIFâ€8). Small, 2019, 15, e1902268.	10.0	95
28	Double-Sided Electrochromic Device Based on Metal–Organic Frameworks. ACS Applied Materials & Interfaces, 2017, 9, 39930-39934.	8.0	92
29	Cross-Linked Thermally Rearranged Poly(benzoxazole- <i>co</i> -imide) Membranes Prepared from <i>ortho</i> -Hydroxycopolyimides Containing Pendant Carboxyl Groups and Gas Separation Properties. Macromolecules, 2015, 48, 2603-2613.	4.8	90
30	Desalination of seawater ion complexes by MFI-type zeolite membranes: Temperature and long term stability. Journal of Membrane Science, 2014, 453, 126-135.	8.2	88
31	CUB-5: A Contoured Aliphatic Pore Environment in a Cubic Framework with Potential for Benzene Separation Applications. Journal of the American Chemical Society, 2019, 141, 3828-3832.	13.7	87
32	Porosity in metal–organic framework glasses. Chemical Communications, 2016, 52, 3750-3753.	4.1	76
33	Linking the structures, free volumes, and properties of ionic liquid mixtures. Chemical Science, 2017, 8, 6359-6374.	7.4	74
34	Biomimetic mineralization of metal–organic frameworks around polysaccharides. Chemical Communications, 2017, 53, 1249-1252.	4.1	73
35	Enhanced Gas Permeation through Graphene Nanocomposites. Journal of Physical Chemistry C, 2015, 119, 13700-13712.	3.1	70
36	Water vapor sorption and free volume in the aromatic polyamide layer of reverse osmosis membranes. Journal of Membrane Science, 2013, 425-426, 217-226.	8.2	69

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37	Hyper-Cross-Linked Additives that Impede Aging and Enhance Permeability in Thin Polyacetylene Films for Organic Solvent Nanofiltration. ACS Applied Materials & Interfaces, 2017, 9, 14401-14408.	8.0	69
38	Flux melting of metal–organic frameworks. Chemical Science, 2019, 10, 3592-3601.	7.4	67
39	High performance LiFePO4 electrode materials: influence of colloidal particle morphology and porosity on lithium-ion battery power capability. Energy and Environmental Science, 2010, 3, 813.	30.8	66
40	Water vapor permeation through cellulose acetate membranes and its impact upon membrane separation performance for natural gas purification. Journal of Membrane Science, 2015, 487, 249-255.	8.2	66
41	Dynamic Control of MOFâ€5 Crystal Positioning Using a Magnetic Field. Advanced Materials, 2011, 23, 3901-3906.	21.0	64
42	Effect of polymer structure on gas transport properties of selected aromatic polyimides, polyamides and TR polymers. Journal of Membrane Science, 2015, 493, 766-781.	8.2	63
43	Unexpectedly Strong Size-Sieving Ability in Carbonized Polybenzimidazole for Membrane H <sub>2</sub> /CO <sub>2</sub> Separation. ACS Applied Materials & Interfaces, 2019, 11, 47365-47372.	8.0	63
44	Magnetic framework composites for polycyclic aromatic hydrocarbon sequestration. Journal of Materials Chemistry, 2012, 22, 11470.	6.7	62
45	Structural effects on SAPO-34 and ZIF-8 materials exposed to seawater solutions, and their potential as desalination membranes. Desalination, 2016, 377, 128-137.	8.2	62
46	Finely Tuning the Free Volume Architecture in Iptycene-Containing Polyimides for Highly Selective and Fast Hydrogen Transport. Macromolecules, 2016, 49, 3395-3405.	4.8	60
47	Highly Polar but Amorphous Polymers with Robust Membrane CO2/N2 Separation Performance. Joule, 2019, 3, 1881-1894.	24.0	60
48	Triptycene-containing poly(benzoxazole-co-imide) membranes with enhanced mechanical strength for high-performance gas separation. Journal of Membrane Science, 2018, 551, 305-314.	8.2	59
49	Thermally rearranged (TR) bismaleimide-based network polymers for gas separation membranes. Chemical Communications, 2016, 52, 13556-13559.	4.1	55
50	Enhanced Polymer Crystallinity in Mixed-Matrix Membranes Induced by Metal–Organic Framework Nanosheets for Efficient CO <sub>2</sub> Capture. ACS Applied Materials & Interfaces, 2018, 10, 43095-43103.	8.0	55
51	Effect of heat treatment on pervaporation separation of aqueous salt solution using hybrid PVA/MA/TEOS membrane. Separation and Purification Technology, 2014, 127, 10-17.	7.9	54
52	Ultra-thin hybrid polyhedral silsesquioxane–polyamide films with potentially unlimited 2D dimensions. Journal of Materials Chemistry, 2012, 22, 14835.	6.7	52
53	Modeling of the sorption and transport properties of water vapor in polyimide membranes. Journal of Membrane Science, 2012, 409-410, 96-104.	8.2	52
54	Molecular origins of fast and selective gas transport in pentiptycene-containing polyimide membranes and their physical aging behavior. Journal of Membrane Science, 2016, 518, 100-109.	8.2	52

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55	Positioning an individual metal–organic framework particle using a magnetic field. Journal of Materials Chemistry C, 2013, 1, 42-45.	5.5	51
56	Amino acids as biomimetic crystallization agents for the synthesis of ZIF-8 particles. CrystEngComm, 2016, 18, 4264-4267.	2.6	51
57	Pyrite-type ruthenium disulfide with tunable disorder and defects enables ultra-efficient overall water splitting. Journal of Materials Chemistry A, 2019, 7, 14222-14232.	10.3	50
58	Characterization of Aluminum-Neutralized Sulfonated Styrenic Pentablock Copolymer Films. Industrial & Engineering Chemistry Research, 2013, 52, 1056-1068.	3.7	47
59	lonic transport through a composite structure of N-ethyl-N-methylpyrrolidinium tetrafluoroborate organic ionic plastic crystals reinforced with polymer nanofibres. Journal of Materials Chemistry A, 2015, 3, 6038-6052.	10.3	47
60	Free volume characterization of sulfonated styrenic pentablock copolymers using positron annihilation lifetime spectroscopy. Journal of Membrane Science, 2014, 453, 425-434.	8.2	45
61	Facile and Time-Efficient Carboxylic Acid Functionalization of PIM-1: Effect on Molecular Packing and Gas Separation Performance. Macromolecules, 2020, 53, 6220-6234.	4.8	44
62	Investigation of the effects of ion and water interaction on structure and chemistry of silicalite MFI type zeolite for its potential use as a seawater desalination membrane. Journal of Materials Chemistry, 2010, 20, 4675.	6.7	43
63	Transparent Ethenylene-Bridged Polymethylsiloxane Aerogels: Mechanical Flexibility and Strength and Availability for Addition Reaction. Langmuir, 2017, 33, 4543-4550.	3.5	43
64	Membranes with artificial free-volume for biofuel production. Nature Communications, 2015, 6, 7529.	12.8	38
65	Analysis of governing factors controlling gas transport through fresh and aged triptycene-based polyimide films. Journal of Membrane Science, 2017, 522, 12-22.	8.2	37
66	ZIF-C for targeted RNA interference and CRISPR/Cas9 based gene editing in prostate cancer. Chemical Communications, 2020, 56, 15406-15409.	4.1	37
67	Ionic liquids as porogens for molecularly imprinted polymers: propranolol, a model study. Organic and Biomolecular Chemistry, 2014, 12, 7201-7210.	2.8	36
68	High-Performance Polybenzimidazole Membranes for Helium Extraction from Natural Gas. ACS Applied Materials & Interfaces, 2019, 11, 20098-20103.	8.0	36
69	Advancing Metalâ€Organic Frameworks toward Smart Sensing: Enhanced Fluorescence by a Photonic Metalâ€Organic Framework for Organic Vapor Sensing. Advanced Optical Materials, 2020, 8, 2000961.	7.3	36
70	Effect of fixed charge group concentration on salt permeability and diffusion coefficients in ion exchange membranes. Journal of Membrane Science, 2018, 566, 307-316.	8.2	34
71	Investigation of the chemical and morphological structure of thermally rearranged polymers. Polymer, 2014, 55, 6649-6657.	3.8	32
72	Slow hydrophobic hydration induced polymer ultrafiltration membranes with high water flux. Journal of Membrane Science, 2014, 471, 27-34.	8.2	32

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73	Plastic Crystals Utilising Small Ammonium Cations and Sulfonylimide Anions as Electrolytes for Lithium Batteries. Journal of the Electrochemical Society, 2020, 167, 070529.	2.9	31
74	The thickness dependence of Matrimid films in water vapor permeation. Chemical Engineering Journal, 2012, 209, 301-312.	12.7	30
75	Highly permeable and selective mixed-matrix membranes for hydrogen separation containing PAF-1. Journal of Materials Chemistry A, 2020, 8, 14713-14720.	10.3	30
76	Leveraging Free Volume Manipulation to Improve the Membrane Separation Performance of Amineâ€Functionalized PIMâ€1. Angewandte Chemie - International Edition, 2021, 60, 6593-6599.	13.8	30
77	Organic salts utilising the hexamethylguanidinium cation: the influence of the anion on the structural, physical and thermal properties. Physical Chemistry Chemical Physics, 2019, 21, 12288-12300.	2.8	28
78	Insights into Nitrogenase Bioelectrocatalysis for Green Ammonia Production. ChemSusChem, 2020, 13, 4856-4865.	6.8	28
79	Using Plasticizers to Control the Hydrocarbon Selectivity of a Poly(Methyl Methacrylate)-Coated Quartz Crystal Microbalance Sensor. Analytical Chemistry, 2012, 84, 8564-8570.	6.5	27
80	Organic Microporous Nanofillers with Unique Alcohol Affinity for Superior Ethanol Recovery toward Sustainable Biofuels. ChemSusChem, 2017, 10, 1887-1891.	6.8	27
81	Ultrathin poly (vinyl alcohol)/MXene nanofilm composite membrane with facile intrusion-free construction for pervaporative separations. Journal of Membrane Science, 2020, 614, 118490.	8.2	27
82	Role of Defects in the High Ionic Conductivity of Choline Triflate Plastic Crystal and Its Acid-Containing Compositions. Journal of Physical Chemistry C, 2013, 117, 5532-5543.	3.1	26
83	Stable MOF@enzyme composites for electrochemical biosensing devices. Journal of Materials Chemistry C, 2021, 9, 7677-7688.	5.5	26
84	Multiscale structural control of linked metal–organic polyhedra gel by aging-induced linkage-reorganization. Chemical Science, 2021, 12, 12556-12563.	7.4	24
85	Preparation and gas separation properties of partially pyrolyzed membranes (PPMs) derived from copolyimides containing polyethylene oxide side chains. Journal of Membrane Science, 2012, 409-410, 200-211.	8.2	23
86	Designing hierarchical porous features of ZSM-5 zeolites via Si/Al ratio and their dynamic behavior in seawater ion complexes. Microporous and Mesoporous Materials, 2013, 173, 78-85.	4.4	23
87	Understanding the transport enhancement of poly (vinyl alcohol) based hybrid membranes with dispersed nanochannels for pervaporation application. Journal of Membrane Science, 2020, 603, 118005.	8.2	22
88	Synergistically improved PIM-1 membrane gas separation performance by PAF-1 incorporation and UV irradiation. Journal of Materials Chemistry A, 2022, 10, 10107-10119.	10.3	20
89	Complete Characterization of α-Hopeite Microparticles: An Ideal Nucleation Seed for Metal Organic Frameworks. Crystal Growth and Design, 2011, 11, 5268-5274.	3.0	19
90	Greatly Enhanced Gas Selectivity in Mixed-Matrix Membranes through Size-Controlled Hyper-cross-linked Polymer Additives. Industrial & Engineering Chemistry Research, 2020, 59, 13773-13782.	3.7	19

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91	Biomimetic metal-organic frameworks as protective scaffolds for live-virus encapsulation and vaccine stabilization. Acta Biomaterialia, 2022, 142, 320-331.	8.3	19
92	Tailoring molecular interactions between microporous polymers in high performance mixed matrix membranes for gas separations. Nanoscale, 2020, 12, 17405-17410.	5.6	18
93	Hypercrosslinked Additives for Ageless Gasâ€Separation Membranes. Angewandte Chemie, 2016, 128, 2038-2041.	2.0	17
94	The influence of alkyl chain branching on the properties of pyrrolidinium-based ionic electrolytes. Physical Chemistry Chemical Physics, 2020, 22, 18102-18113.	2.8	17
95	A Crown Ether-Containing Copolyimide Membrane with Improved Free Volume for CO <sub>2</sub> Separation. Industrial & Engineering Chemistry Research, 2019, 58, 14357-14367.	3.7	15
96	The impact of water and hydrocarbon concentration on the sensitivity of a polymer-based quartz crystal microbalance sensor for organic compounds. Analytica Chimica Acta, 2011, 703, 70-79.	5.4	14
97	Architecturing Nanospace via Thermal Rearrangement for Highly Efficient Gas Separations. Journal of Physical Chemistry C, 2013, 117, 24654-24661.	3.1	14
98	Enhancing polyimide-based mixed matrix membranes performance for CO2 separation containing PAF-1 and p-DCX. Separation and Purification Technology, 2021, 268, 118677.	7.9	14
99	Microfabrication of mesoporous silica encapsulated enzymes using deep X-ray lithography. Journal of Materials Chemistry, 2012, 22, 16191.	6.7	13
100	Stress-relaxation heat treatment in FeSiBNb amorphous alloy: Thermal, microstructure, nanomechanical and magnetic texture measurements. Journal of Magnetism and Magnetic Materials, 2018, 456, 62-70.	2.3	13
101	Simultaneous Microfabrication and Tuning of the Permselective Properties in Microporous Polymers Using Xâ€ray Lithography. Small, 2013, 9, 2277-2282.	10.0	12
102	Diffusion of lowâ€molecularâ€weight permeants through semiâ€crystalline polymers: combining molecular dynamics with semiâ€empirical models. Polymer International, 2018, 67, 717-725.	3.1	12
103	Fabricating Bioactive 3D Metal–Organic Framework Devices. Advanced Sustainable Systems, 2020, 4, 2000059.	5.3	12
104	The influence of propane and n-butane on the structure and separation performance of cellulose acetate membranes. Journal of Membrane Science, 2021, 638, 119677.	8.2	12
105	Polyethylenimine "Snow― An Emerging Material for Efficient Carbon Removal. ACS Applied Materials & Interfaces, 2019, 11, 26770-26780.	8.0	11
106	Physical Aging Investigations of a Spirobisindane-Locked Polymer of Intrinsic Microporosity. , 2020, 2, 993-998.		11
107	Probing the Design Rationale of a Highâ€Performing Faujasitic Zeotype Engineered to have Hierarchical Porosity and Moderated Acidity. Angewandte Chemie - International Edition, 2020, 59, 19561-19569.	13.8	11
108	Free volume manipulation of a 6FDA-HAB polyimide using a solid-state protection/deprotection strategy. Polymer, 2021, 212, 123121.	3.8	11

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109	Gas transport characteristics of supramolecular networks of metal-coordinated highly branched Poly(ethylene oxide). Journal of Membrane Science, 2022, 644, 120063.	8.2	10
110	A Systematic Study of the Stability of Enzyme/Zeolitic Imidazolate Frameworkâ€8 Composites in Various Biologically Relevant Solutions. ChemistrySelect, 2020, 5, 13766-13774.	1.5	8
111	Thermal, structural and dynamic properties of ionic liquids and organic ionic plastic crystals with a small ether-functionalised cation. Materials Chemistry Frontiers, 2022, 6, 1437-1455.	5.9	8
112	Ionic liquids and plastic crystals utilising the oxazolidinium cation: the effect of ether functionality in the ring. Materials Chemistry Frontiers, 2021, 5, 6014-6026.	5.9	7
113	Scalable Pillar[5]arene-Integrated Poly(arylate-amide) Molecular Sieve Membranes to Separate Light Gases. Chemistry of Materials, 2022, 34, 6559-6567.	6.7	7
114	Evaluation of Coupling Protocols to Bind Beta-Glucosidase on Magnetic Nanoparticles. Journal of Nanoscience and Nanotechnology, 2014, 14, 6565-6573.	0.9	6
115	Origin of CO <sub>2</sub> -philic Sorption by Graphene Oxide Layered Nanosheets and Their Derivatives. Journal of Physical Chemistry Letters, 2020, 11, 2356-2362.	4.6	6
116	Isolable 1â€Butene Copper(I) Complexes and 1â€Butene/Butane Separation Using Structurally Adaptable Copper Pyrazolates. ChemPlusChem, 2021, 86, 364-372.	2.8	6
117	Leveraging Free Volume Manipulation to Improve the Membrane Separation Performance of Amineâ€Functionalized PIMâ€1. Angewandte Chemie, 2021, 133, 6667-6673.	2.0	6
118	Enhanced Membrane Performance for Gas Separation by Coupling Effect of the Porous Aromatic Framework (PAF) Incorporation and Photo-Oxidation. Industrial & Engineering Chemistry Research, 2022, 61, 6190-6199.	3.7	6
119	Predicting trends in structural and physical properties of a model polymer with embedded natural fibers: Viability of molecular dynamics studies for a bottom up design. Journal of Applied Polymer Science, 2019, 136, 48189.	2.6	5
120	Gene Therapy: Encapsulation, Visualization and Expression of Genes with Biomimetically Mineralized Zeolitic Imidazolate Frameworkâ€8 (ZIFâ€8) (Small 36/2019). Small, 2019, 15, 1970193.	10.0	4
121	Polyimide-silica sol–gel membranes from a novel alkoxysilane functionalized polyimide: preparation, characterization and gas separation properties. Journal of Sol-Gel Science and Technology, 2014, 72, 464-479.	2.4	3
122	Porous solid inspired hyper-crosslinked polymer liquids with highly efficient regeneration for gas purification. Science China Materials, 2022, 65, 1937-1942.	6.3	3
123	Probing the Design Rationale of a Highâ€Performing Faujasitic Zeotype Engineered to have Hierarchical Porosity and Moderated Acidity. Angewandte Chemie, 2020, 132, 19729-19737.	2.0	2

124 Lithography of porous materials for device fabrication. , 2011, , .