Benny D Freeman

List of Publications by Year
in descending order

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430 papers	42,099 citations	2538 96 h-index	2812 191 g-index
461 all docs	461 docs citations	461 times ranked	21945 citing authors

#	Article	IF	Citations
1	Reverse osmosis desalination: Water sources, technology, and today's challenges. Water Research, 2009, 43, 2317-2348.	5.3	2,496
2	Maximizing the right stuff: The trade-off between membrane permeability and selectivity. Science, 2017, 356, .	6.0	1,864
3	Basis of Permeability/Selectivity Tradeoff Relations in Polymeric Gas Separation Membranes. Macromolecules, 1999, 32, 375-380.	2.2	1,353
4	Energy-efficient polymeric gas separation membranes for a sustainable future: AÂreview. Polymer, 2013, 54, 4729-4761.	1.8	1,144
5	Ultrapermeable, Reverse-Selective Nanocomposite Membranes. Science, 2002, 296, 519-522.	6.0	999
6	Gas sorption, diffusion, and permeation in poly(dimethylsiloxane). Journal of Polymer Science, Part B: Polymer Physics, 2000, 38, 415-434.	2.4	957
7	Elucidating the Structure of Poly(dopamine). Langmuir, 2012, 28, 6428-6435.	1.6	920
8	Polymers with Cavities Tuned for Fast Selective Transport of Small Molecules and Ions. Science, 2007, 318, 254-258.	6.0	919
9	Water purification by membranes: The role of polymer science. Journal of Polymer Science, Part B: Polymer Physics, 2010, 48, 1685-1718.	2.4	798
10	50th Anniversary Perspective: Polymers and Mixed Matrix Membranes for Gas and Vapor Separation: A Review and Prospective Opportunities. Macromolecules, 2017, 50, 7809-7843.	2.2	709
11	Materials selection guidelines for membranes that remove CO2 from gas mixtures. Journal of Molecular Structure, 2005, 739, 57-74.	1.8	697
12	Gas solubility, diffusivity and permeability in poly(ethylene oxide). Journal of Membrane Science, 2004, 239, 105-117.	4.1	664
13	Water permeability and water/salt selectivity tradeoff in polymers for desalination. Journal of Membrane Science, 2011, 369, 130-138.	4.1	641
14	Plasticization-Enhanced Hydrogen Purification Using Polymeric Membranes. Science, 2006, 311, 639-642.	6.0	616
15	Fundamental water and salt transport properties of polymeric materials. Progress in Polymer Science, 2014, 39, 1-42.	11.8	597
16	Poly[1-(trimethylsilyl)-1-propyne] and related polymers: synthesis, properties and functions. Progress in Polymer Science, 2001, 26, 721-798.	11.8	596
17	Surface Modification of Water Purification Membranes. Angewandte Chemie - International Edition, 2017, 56, 4662-4711.	7.2	564
18	Gas separation using polymer membranes: an overview. Polymers for Advanced Technologies, 1994, 5, 673-697.	1.6	479

#	Article	IF	Citations
19	Gas transport properties of poly(ether-b-amide) segmented block copolymers. Journal of Polymer Science, Part B: Polymer Physics, 2000, 38, 2051-2062.	2.4	382
20	Ultrafast selective transport of alkali metal ions in metal organic frameworks with subnanometer pores. Science Advances, 2018, 4, eaaq0066.	4.7	368
21	Sorption, Transport, and Structural Evidence for Enhanced Free Volume in Poly(4-methyl-2-pentyne)/Fumed Silica Nanocomposite Membranes. Chemistry of Materials, 2003, 15, 109-123.	3.2	341
22	Influence of polydopamine deposition conditions on pure water flux and foulant adhesion resistance of reverse osmosis, ultrafiltration, and microfiltration membranes. Polymer, 2010, 51, 3472-3485.	1.8	338
23	Perspectives on poly(dopamine). Chemical Science, 2013, 4, 3796.	3.7	338
24	Confined Crystallization of Polyethylene Oxide in Nanolayer Assemblies. Science, 2009, 323, 757-760.	6.0	334
25	Polyamide interfacial composite membranes prepared from m-phenylene diamine, trimesoyl chloride and a new disulfonated diamine. Journal of Membrane Science, 2012, 403-404, 152-161.	4.1	321
26	Surface modification of thin film composite membrane support layers with polydopamine: Enabling use of reverse osmosis membranes in pressure retarded osmosis. Journal of Membrane Science, 2011, 375, 55-62.	4.1	297
27	A bioinspired fouling-resistant surface modification for water purification membranes. Journal of Membrane Science, 2012, 413-414, 82-90.	4.1	295
28	Transport and structural characteristics of crosslinked poly(ethylene oxide) rubbers. Journal of Membrane Science, 2006, 276, 145-161.	4.1	288
29	Gas sorption and characterization of poly(ether-b-amide) segmented block copolymers. Journal of Polymer Science, Part B: Polymer Physics, 1999, 37, 2463-2475.	2.4	284
30	The Effect of Cross-Linking on Gas Permeability in Cross-Linked Poly(Ethylene Glycol Diacrylate). Macromolecules, 2005, 38, 8381-8393.	2.2	277
31	Efficient metal ion sieving in rectifying subnanochannels enabled by metalâ€“organic frameworks. Nature Materials, 2020, 19, 767-774.	13.3	275
32	PEG-coated reverse osmosis membranes: Desalination properties and fouling resistance. Journal of Membrane Science, 2009, 340, 92-108.	4.1	260
33	Effect of polydopamine deposition conditions on fouling resistance, physical properties, and permeation properties of reverse osmosis membranes in oil/water separation. Journal of Membrane Science, 2013, 425-426, 208-216.	4.1	250
34	Effect of Nanoparticles on Gas Sorption and Transport in Poly(1-trimethylsilyl-1-propyne). Macromolecules, 2003, 36, 6844-6855.	2.2	246
35	Physical aging of ultrathin glassy polymer films tracked by gas permeability. Polymer, 2009, 50, 5565-5575.	1.8	229
36	Highly Chlorineâ€Tolerant Polymers for Desalination. Angewandte Chemie - International Edition, 2008, 47, 6019-6024.	7.2	220

#	Article	IF	Citations
37	High-Performance Polymer Membranes for Natural-Gas Sweetening. Advanced Materials, 2006, 18, 39-44.	11.1	217
38	Surface modification of commercial polyamide desalination membranes using poly(ethylene glycol) diglycidyl ether to enhance membrane fouling resistance. Journal of Membrane Science, 2011, 367, 273-287.	4.1	209
39	Oxygen Concentration Control of Dopamine-Induced High Uniformity Surface Coating Chemistry. ACS Applied Materials & Interfaces, 2013, 5, 233-238.	4.0	206
40	Short-term adhesion and long-term biofouling testing of polydopamine and poly(ethylene glycol) surface modifications of membranes and feed spacers for biofouling control. Water Research, 2012, 46, 3737-3753.	5.3	204
41	Crosslinked poly(ethylene oxide) fouling resistant coating materials for oil/water separation. Journal of Membrane Science, 2008, 307, 260-267.	4.1	203
42	Mixed-gas permeation of syngas components in poly(dimethylsiloxane) and poly(1-trimethylsilyl-1-propyne) at elevated temperatures. Journal of Membrane Science, 2001, 191, 85-94.	4.1	197
43	Influence of temperature on the upper bound: Theoretical considerations and comparison with experimental results. Journal of Membrane Science, 2010, 360, 58-69.	4.1	184
44	An empirical correlation of gas permeability and permselectivity in polymers and its theoretical basis. Journal of Membrane Science, 2009, 341, 178-185.	4.1	178
45	Synthesis and characterization of triptycene-based polyimides with tunable high fractional free volume for gas separation membranes. Journal of Materials Chemistry A, 2014, 2, 13309-13320.	5.2	175
46	Sorption and transport of hydrocarbon and perfluorocarbon gases in poly(1-trimethylsilyl-1-propyne). Journal of Polymer Science, Part B: Polymer Physics, 2000, 38, 273-296.	2.4	170
47	Contributions of diffusion and solubility selectivity to the upper bound analysis for glassy gas separation membranes. Journal of Membrane Science, 2014, 453, 71-83.	4.1	170
48	Comparison of membrane fouling at constant flux and constant transmembrane pressure conditions. Journal of Membrane Science, 2014, 454, 505-515.	4.1	169
49	Gas and Vapor Sorption, Permeation, and Diffusion in Glassy Amorphous Teflon AF1600. Macromolecules, 2002, 35, 9513-9522.	2.2	168
50	Modeling multicomponent gas separation using hollow-fiber membrane contactors. AICHE Journal, 1998, 44, 1289-1302.	1.8	167
51	Gas Sorption, Diffusion, and Permeation in Poly(2,2-bis(trifluoromethyl)-4,5-difluoro-1,3-dioxole-co-tetrafluoroethylene). Macromolecules, 1999, 32, 8427-8440.	2.2	166
52	Gas Permeation and Diffusion in Cross-Linked Poly(ethylene glycol diacrylate). Macromolecules, 2006, 39, 3568-3580.	2.2	165
53	Characterization of sodium chloride and water transport in crosslinked poly(ethylene oxide) hydrogels. Journal of Membrane Science, 2010, 358, 131-141.	4.1	160
54	Characterization of a sulfonated pentablock copolymer for desalination applications. Polymer, 2010, 51, 5815-5822.	1.8	160

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55	Effect of Basic Substituents on Gas Sorption and Permeation in Polysulfone. Macromolecules, 1996, 29, 4360-4369.	2.2	158
56	Fast and selective fluoride ion conduction in sub-1-nanometer metal-organic framework channels. Nature Communications, 2019, 10, 2490.	5.8	158
57	Gas and Vapor Solubility in Cross-Linked Poly(ethylene Glycol Diacrylate). Macromolecules, 2005, 38, 8394-8407.	2.2	157
58	Water Sorption, Proton Conduction, and Methanol Permeation Properties of Sulfonated Polyimide Membranes Cross-Linked with N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic Acid (BES). Macromolecules, 2006, 39, 755-764.	2.2	155
59	Ion Activity Coefficients in Ion Exchange Polymers: Applicability of Manningâ€™s Counterion Condensation Theory. Macromolecules, 2015, 48, 8011-8024.	2.2	154
60	Comparison of transport properties of rubbery and glassy polymers and the relevance to the upper bound relationship. Journal of Membrane Science, 2015, 476, 421-431.	4.1	153
61	Partitioning of mobile ions between ion exchange polymers and aqueous salt solutions: importance of counter-ion condensation. Physical Chemistry Chemical Physics, 2016, 18, 6021-6031.	1.3	148
62	Gas permeability, diffusivity, and free volume of thermally rearranged polymers based on 3,3â€²-dihydroxy-4,4â€²-diamino-biphenyl (HAB) and 2,2â€²-bis-(3,4-dicarboxyphenyl) hexafluoropropane dianhydride (6FDA). Journal of Membrane Science, 2012, 409-410, 232-241.	4.1	146
63	Preparation and characterization of crosslinked poly(ethylene glycol) diacrylate hydrogels as fouling-resistant membrane coating materials. Journal of Membrane Science, 2009, 330, 180-188.	4.1	145
64	Polymeric Membranes for Chiral Separation of Pharmaceuticals and Chemicals. Polymer Reviews, 2010, 50, 113-143.	5.3	144
65	Pure and mixed gas acetone/nitrogen permeation properties of polydimethylsiloxane [PDMS]. Journal of Polymer Science, Part B: Polymer Physics, 1998, 36, 289-301.	2.4	140
66	Transport of Gases and Vapors in Glassy and Rubbery Polymers. , 2006, , 1-47.		136
67	Effect of Free Volume on Water and Salt Transport Properties in Directly Copolymerized Disulfonated Poly(arylene ether sulfone) Random Copolymers. Macromolecules, 2011, 44, 4428-4438.	2.2	133
68	Pure and mixed gas CH4 and n-C4H10 permeability and diffusivity in poly(dimethylsiloxane). Journal of Membrane Science, 2007, 306, 75-92.	4.1	132
69	Sorption and Transport in Poly(2,2-bis(trifluoromethyl)-4,5-difluoro-1,3-dioxole-co-tetrafluoroethylene) Containing Nanoscale Fumed Silica. Macromolecules, 2003, 36, 8406-8414.	2.2	130
70	Graphene Oxide: A New Platform for Highâ€Performance Gasâ€•and Liquidâ€Separation Membranes. Angewandte Chemie - International Edition, 2014, 53, 10286-10288.	7.2	130
71	Sodium chloride sorption in sulfonated polymers for membrane applications. Journal of Membrane Science, 2012, 423-424, 195-208.	4.1	128
72	Predicting Salt Permeability Coefficients in Highly Swollen, Highly Charged Ion Exchange Membranes. ACS Applied Materials & Interfaces, 2017, 9, 4044-4056.	4.0	126

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73	Highly CO₂-Selective Gas Separation Membranes Based on Segmented Copolymers of Poly(Ethylene oxide) Reinforced with Pentiptycene-Containing Polyimide Hard Segments. ACS Applied Materials & Interfaces, 2016, 8, 2306-2317.	4.0	125
74	Ion Diffusion Coefficients in Ion Exchange Membranes: Significance of Counterion Condensation. Macromolecules, 2018, 51, 5519-5529.	2.2	123
75	Molecular Dynamics for Polymeric Fluids Using Discontinuous Potentials. Journal of Computational Physics, 1997, 134, 16-30.	1.9	122
76	Propane and propylene sorption in solid polymer electrolytes based on poly(ethylene oxide) and silver salts. Journal of Membrane Science, 2001, 182, 1-12.	4.1	120
77	Synthesis and crosslinking of partially disulfonated poly(arylene etherÂsulfone) random copolymers as candidates for chlorine resistantÂreverse osmosis membranes. Polymer, 2008, 49, 2243-2252.	1.8	120
78	Fouling-resistant membranes for the treatment of flowback water from hydraulic shale fracturing: A pilot study. Journal of Membrane Science, 2013, 437, 265-275.	4.1	120
79	Gas transport in TiO2 nanoparticle-filled poly(1-trimethylsilyl-1-propyne). Journal of Membrane Science, 2008, 307, 196-217.	4.1	119
80	Gas sorption and characterization of thermally rearranged polyimides based on 3,3â€²-dihydroxy-4,4â€²-diamino-biphenyl (HAB) and 2,2â€²-bis-(3,4-dicarboxyphenyl) hexafluoropropane dianhydride (6FDA). Journal of Membrane Science, 2012, 415-416, 558-567.	4.1	119
81	Salt concentration dependence of ionic conductivity in ion exchange membranes. Journal of Membrane Science, 2018, 547, 123-133.	4.1	119
82	Sorption of Gases and Vapors in an Amorphous Glassy Perfluorodioxole Copolymer. Macromolecules, 1999, 32, 6163-6171.	2.2	115
83	PEG-based hydrogel membrane coatings. Polymer, 2009, 50, 756-766.	1.8	115
84	Pure-Gas and Vapor Permeation and Sorption Properties of Poly[1-phenyl-2-[p-(trimethylsilyl)phenyl]acetylene] (PTMSDPA). Macromolecules, 2000, 33, 2516-2524.	2.2	114
85	Effect of crosslinked chain length in sulfonated polyimide membranes on water sorption, proton conduction, and methanol permeation properties. Journal of Membrane Science, 2006, 285, 432-443.	4.1	114
86	The effect of antiscalant addition on calcium carbonate precipitation for a simplified synthetic brackish water reverse osmosis concentrate. Water Research, 2010, 44, 2957-2969.	5.3	114
87	Pure and mixed gas CH4 and n-C4H10 sorption and dilation in poly(dimethylsiloxane). Journal of Membrane Science, 2007, 292, 45-61.	4.1	113
88	Fundamental salt and water transport properties in directly copolymerized disulfonated poly(arylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.8	112
89	Fouling mechanisms in constant flux crossflow ultrafiltration. Journal of Membrane Science, 2019, 574, 65-75.	4.1	109
90	Gas separation properties of aromatic polyimides. Journal of Membrane Science, 2003, 215, 61-73.	4.1	108

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91	High-performance CO₂-philic graphene oxide membranes under wet-conditions. Chemical Communications, 2014, 50, 13563-13566.	2.2	105
92	Effect of fixed charge group concentration on equilibrium ion sorption in ion exchange membranes. Journal of Materials Chemistry A, 2017, 5, 4638-4650.	5.2	105
93	Hydrocarbon and Perfluorocarbon Gas Sorption in Poly(dimethylsiloxane), Poly(1-trimethylsilyl-1-propyne), and Copolymers of Tetrafluoroethylene and 2,2-Bis(trifluoromethyl)-4,5- difluoro-1,3-dioxole. Macromolecules, 1999, 32, 370-374.	2.2	102
94	Charged Polymer Membranes for Environmental/Energy Applications. Annual Review of Chemical and Biomolecular Engineering, 2016, 7, 111-133.	3.3	102
95	Gas and Vapor Sorption and Permeation in Poly(2,2,4-trifluoro-5-trifluoromethoxy-1,3-dioxole-co-tetrafluoroethylene). Macromolecules, 2004, 37, 7688-7697.	2.2	101
96	Synthesis and Properties of Indan-Based Polyacetylenes That Feature the Highest Gas Permeability among All the Existing Polymers. Macromolecules, 2008, 41, 8525-8532.	2.2	101
97	Sodium chloride diffusion in sulfonated polymers for membrane applications. Journal of Membrane Science, 2013, 427, 186-196.	4.1	101
98	Pentiptycene-based polyimides with hierarchically controlled molecular cavity architecture for efficient membrane gas separation. Journal of Membrane Science, 2015, 480, 20-30.	4.1	101
99	Underwater Superoleophobic Surfaces Prepared from Polymer Zwitterion/Dopamine Composite Coatings. Advanced Materials Interfaces, 2016, 3, 1500521.	1.9	100
100	Gas permeation properties of poly(urethane-urea)s containing different polyethers. Journal of Membrane Science, 2011, 369, 49-58.	4.1	98
101	Effect of crossflow testing conditions, including feed pH and continuous feed filtration, on commercial reverse osmosis membrane performance. Journal of Membrane Science, 2009, 345, 97-109.	4.1	97
102	A variable energy positron annihilation lifetime spectroscopy study of physical aging in thin glassy polymer films. Polymer, 2009, 50, 6149-6156.	1.8	97
103	On the effects of plasticization in CO2/light gas separation using polymeric solubility selective membranes. Journal of Membrane Science, 2011, 367, 33-44.	4.1	97
104	Cavity size, sorption and transport characteristics of thermally rearranged (TR) polymers. Polymer, 2011, 52, 2244-2254.	1.8	97
105	Gas transport properties of MgO filled poly(1-trimethylsilyl-1-propyne) nanocomposites. Polymer, 2008, 49, 1659-1675.	1.8	96
106	Reactive Amphiphilic Graft Copolymer Coatings Applied to Poly(vinylidene fluoride) Ultrafiltration Membranes. Macromolecules, 2007, 40, 3624-3630.	2.2	94
107	Pure- and mixed-gas permeation of CO2 and CH4 in thermally rearranged polymers based on 3,3â€²-dihydroxy-4,4â€²-diamino-biphenyl (HAB) and 2,2â€²-bis-(3,4-dicarboxyphenyl) hexafluoropropane dianhydride (6FDA). Journal of Membrane Science, 2015, 475, 204-214.	4.1	93
108	Influence of methanol conditioning and physical aging on carbon spin-lattice relaxation times of poly(1-trimethylsilyl-1-propyne). Journal of Membrane Science, 2004, 243, 37-44.	4.1	92

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109	Hydrocarbon and fluorocarbon solubility and dilation in poly(dimethylsiloxane): Comparison of experimental data with predictions of the Sanchez-Lacombe equation of state. Journal of Polymer Science, Part B: Polymer Physics, 1999, 37, 3011-3026.	2.4	91
110	Water uptake, transport and structure characterization in poly(ethylene glycol) diacrylate hydrogels. Journal of Membrane Science, 2010, 347, 197-208.	4.1	88
111	Bifunctional hydrogel coatings for water purification membranes: Improved fouling resistance and antimicrobial activity. Journal of Membrane Science, 2011, 372, 285-291.	4.1	88
112	Impact of feed spacer and membrane modification by hydrophilic, bactericidal and biocidal coating on biofouling control. Desalination, 2012, 295, 1-10.	4.0	88
113	Constant flux crossflow filtration evaluation of surface-modified fouling-resistant membranes. Journal of Membrane Science, 2014, 452, 171-183.	4.1	88
114	Gas Sorption and Dilation in Poly(2,2-bistrifluoromethyl-4,5-difluoro-1,3-dioxole-co-tetrafluoroethylene):Â Comparison of Experimental Data with Predictions of the Nonequilibrium Lattice Fluid Model. Macromolecules, 2002, 35, 1276-1288.	2.2	87
115	Influence of polydopamine deposition conditions on hydraulic permeability, sieving coefficients, pore size and pore size distribution for a polysulfone ultrafiltration membrane. Journal of Membrane Science, 2017, 522, 100-115.	4.1	87
116	Hydrocarbon/hydrogen mixed gas permeation in poly(1-trimethylsilyl-1-propyne) (PTMSP), poly(1-phenyl-1-propyne) (PPP), and PTMSP/PPP blends. Journal of Polymer Science, Part B: Polymer Physics, 1996, 34, 2613-2621.	2.4	86
117	Polymer characterization and gas permeability of poly(1-trimethylsilyl-1-propyne) [PTMSP], poly(1-phenyl-1-propyne) [PPP], and PTMSP/PPP blends. Journal of Polymer Science, Part B: Polymer Physics, 1996, 34, 2209-2222.	2.4	85
118	Synthesis and characterization of Thermally Rearranged (TR) polymers: influence of ortho-positioned functional groups of polyimide precursors on TR process and gas transport properties. Journal of Materials Chemistry A, 2013, 1, 262-272.	5.2	85
119	Dynamic relaxation characteristics of MatrimidÂ® polyimide. Polymer, 2009, 50, 891-897.	1.8	83
120	Novel thin film composite membrane containing ionizable hydrophobes: pH-dependent reverse osmosis behavior and improved chlorine resistance. Journal of Materials Chemistry, 2010, 20, 4615.	6.7	83
121	Gas permeation in thin films of â€œhigh free-volumeâ€•glassy perfluoropolymers: Part I. Physical aging. Polymer, 2014, 55, 5788-5800.	1.8	83
122	Synthesis and characterization of thermally rearranged (TR) polymers: effect of glass transition temperature of aromatic poly(hydroxyimide) precursors on TR process and gas permeation properties. Journal of Materials Chemistry A, 2013, 1, 6063.	5.2	82
123	Solute and water transport in forward osmosis using polydopamine modified thin film composite membranes. Desalination, 2014, 343, 8-16.	4.0	82
124	Segmental Relaxation Characteristics of Cross-Linked Poly(ethylene oxide) Copolymer Networks. Macromolecules, 2005, 38, 9679-9687.	2.2	80
125	Crosslinking poly[1-(trimethylsilyl)-1-propyne] and its effect on physical stability. Journal of Membrane Science, 2008, 320, 123-134.	4.1	80
126	Analysis of the transport properties of thermally rearranged (TR) polymers and polymers of intrinsic microporosity (PIM) relative to upper bound performance. Journal of Membrane Science, 2017, 525, 18-24.	4.1	80

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127	A molecular simulation study of cavity size distributions and diffusion in para and meta isomers. Polymer, 2005, 46, 9155-9161.	1.8	79
128	Gas Permeability and Free Volume of Highly Branched Substituted Acetylene Polymers. Macromolecules, 2001, 34, 1788-1796.	2.2	78
129	Effect of physical aging of poly(1-trimethylsilyl-1-propyne) films synthesized with TaCl5 and NbCl5 on gas permeability, fractional free volume, and positron annihilation lifetime spectroscopy parameters. Journal of Polymer Science, Part B: Polymer Physics, 2000, 38, 1222-1239.	2.4	77
130	Gas permeability of melt-processed poly(ether block amide) copolymers and the effects of orientation. Polymer, 2012, 53, 1383-1392.	1.8	76
131	Effect of copolymer composition, temperature, and carbon dioxide fugacity on pure- and mixed-gas permeability in poly(ethylene glycol)-based materials: Free volume interpretation. Journal of Membrane Science, 2007, 291, 131-139.	4.1	75
132	Gas permeation and selectivity of poly(dimethylsiloxane)/graphene oxide composite elastomer membranes. Journal of Membrane Science, 2016, 518, 131-140.	4.1	73
133	Effect of polydopamine deposition conditions on polysulfone ultrafiltration membrane properties and threshold flux during oil/water emulsion filtration. Polymer, 2016, 97, 247-257.	1.8	72
134	Thermal rearranged poly(benzoxazole-co-imide) membranes for CO2 separation. Journal of Membrane Science, 2014, 450, 72-80.	4.1	71
135	Porosity enhancement in Î² nucleated isotactic polypropylene stretched films byÂthermal annealing. Polymer, 2013, 54, 2577-2589.	1.8	70
136	Polymeric Materials for Gas Separations. ACS Symposium Series, 1999, , 1-27.	0.5	68
137	Preparation and gas permeation of immobilized fullerene membranes. Journal of Applied Polymer Science, 2000, 77, 529-537.	1.3	68
138	Sorption and Transport Properties of Propane and Perfluoropropane in Poly(dimethylsiloxane) and Poly(1-trimethylsilyl-1-propyne). Macromolecules, 2005, 38, 1899-1910.	2.2	68
139	The effect of permeate flux on membrane fouling during microfiltration of oily water. Journal of Membrane Science, 2017, 525, 25-34.	4.1	68
140	Gas separation properties of aromatic polyamides containing hexafluoroisopropylidene groups. Journal of Membrane Science, 1995, 104, 231-241.	4.1	66
141	New protein-resistant coatings for water filtration membranes based on quaternary ammonium and phosphonium polymers. Journal of Membrane Science, 2009, 330, 104-116.	4.1	65
142	Engineering Li/Na selectivity in 12-Crown-4â€“functionalized polymer membranes. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	65
143	Monovalent and divalent ion sorption in a cation exchange membrane based on cross-linked poly (p-styrene sulfonate-co-divinylbenzene). Journal of Membrane Science, 2017, 535, 132-142.	4.1	64
144	Cavity size distributions in high free volume glassy polymers by molecular simulation. Polymer, 2004, 45, 3907-3912.	1.8	63

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145	Effect of polymer structure on gas transport properties of selected aromatic polyimides, polyamides and TR polymers. Journal of Membrane Science, 2015, 493, 766-781.	4.1	63
146	Gas permeation and mechanical properties of thermally rearranged (TR) copolyimides. Polymer, 2016, 82, 378-391.	1.8	63
147	Gas and Vapor Transport Properties of Perfluoropolymers. , 2006, , 251-270.		62
148	Designing Solute-Tailored Selectivity in Membranes: Perspectives for Water Reuse and Resource Recovery. ACS Macro Letters, 2020, 9, 1709-1717.	2.3	62
149	Nonisothermal model for gas separation hollow-fiber membranes. AICHE Journal, 1999, 45, 1451-1468.	1.8	61
150	Formation and Modification of Polymeric Membranes: Overview. ACS Symposium Series, 1999, , 1-22.	0.5	61
151	Synthesis and Properties of Poly(diphenylacetylenes) Having Hydroxyl Groups. Macromolecules, 2005, 38, 4096-4102.	2.2	61
152	Molecular dynamics study of entangled hardâ€chain fluids. Journal of Chemical Physics, 1996, 104, 5616-5637.	1.2	60
153	Gas Permeability, Solubility, and Diffusion Coefficients in 1,2-Polybutadiene Containing Magnesium Oxide. Macromolecules, 2008, 41, 2144-2156.	2.2	59
154	Influence of polyimide precursor synthesis route and ortho-position functional group on thermally rearranged (TR) polymer properties: Conversion and free volume. Polymer, 2014, 55, 1636-1647.	1.8	59
155	Influence of Diffusivity and Sorption on Helium and Hydrogen Separations in Hydrocarbon, Silicon, and Fluorocarbon-Based Polymers. Macromolecules, 2014, 47, 3170-3184.	2.2	59
156	Influence of chemical structure of short chain pendant groups on gas transport properties of cross-linked poly(ethylene oxide) copolymers. Journal of Membrane Science, 2009, 327, 195-207.	4.1	58
157	Aromatic polyimide and polybenzoxazole membranes for the fractionation of aromatic/aliphatic hydrocarbons by pervaporation. Journal of Membrane Science, 2012, 390-391, 182-193.	4.1	58
158	Fouling-resistant ultrafiltration membranes prepared via co-deposition of dopamine/zwitterion composite coatings. Journal of Membrane Science, 2017, 541, 300-311.	4.1	58
159	OberflÃchenmodifizierung von Wasseraufbereitungsmembranen. Angewandte Chemie, 2017, 129, 4734-4788.	1.6	58
160	Molecular Simulation and Experimental Study of Substituted Polyacetylenes:Â Fractional Free Volume, Cavity Size Distributions and Diffusion Coefficients. Journal of Physical Chemistry B, 2006, 110, 12666-12672.	1.2	57
161	Water Treatment: Are Membranes the Panacea?. Annual Review of Chemical and Biomolecular Engineering, 2020, 11, 559-585.	3.3	57
162	Influence of previous history on physical aging in thin glassy polymer films as gas separation membranes. Polymer, 2010, 51, 3784-3792.	1.8	56

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163	Size-Dependent Permeability Deviations from Maxwellâ€™s Model in Hybrid Cross-Linked Poly(ethylene) Tj ETQq1 1 0.784314 rgBT /Ov	3.2	56
164	Gas and Vapor Sorption, Permeation, and Diffusion in Poly(tetrafluoroethylene-co-perfluoromethyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	2.2	54
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