Peter Budd

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

132 papers	11,897 citations	49 h-index	108 g-index
137 ext. papers	13,104 ext. citations	8.1 avg, IF	6.6 L-index

#	Paper	IF	Citations
132	Polymers of intrinsic microporosity (PIMs): organic materials for membrane separations, heterogeneous catalysis and hydrogen storage. *Chemical Society Reviews*, **2006**, 35, 675-83	58.5	1376
131	Polymers of intrinsic microporosity (PIMs): robust, solution-processable, organic nanoporous materials. *Chemical Communications*, **2004**, 230-1	5.8	899
130	Exploitation of Intrinsic Microporosity in Polymer-Based Materials. *Macromolecules*, **2010**, 43, 5163-5176	5.5	669
129	Gas separation membranes from polymers of intrinsic microporosity. *Journal of Membrane Science*, **2005**, 251, 263-269	9.6	615
128	Polymers of intrinsic microporosity (PIMs): bridging the void between microporous and polymeric materials. *Chemistry - A European Journal*, **2005**, 11, 2610-20	4.8	411
127	Gas permeation parameters and other physicochemical properties of a polymer of intrinsic microporosity: Polybenzodioxane PIM-1. *Journal of Membrane Science*, **2008**, 325, 851-860	9.6	410
126	Towards polymer-based hydrogen storage materials: engineering ultramicroporous cavities within polymers of intrinsic microporosity. *Angewandte Chemie - International Edition*, **2006**, 45, 1804-7	16.4	394
125	Free volume and intrinsic microporosity in polymers. *Journal of Materials Chemistry*, **2005**, 15, 1977		321
124	Highly permeable polymers for gas separation membranes. *Polymer Chemistry*, **2010**, 1, 63	4.9	279
123	Gas permeation parameters of mixed matrix membranes based on the polymer of intrinsic microporosity PIM-1 and the zeolitic imidazolate framework ZIF-8. *Journal of Membrane Science*, **2013**, 427, 48-62	9.6	276
122	Gas Permeation Properties, Physical Aging, and Its Mitigation in High Free Volume Glassy Polymers. *Chemical Reviews*, **2018**, 118, 5871-5911	68.1	268
121	A triptycene-based polymer of intrinsic microposity that displays enhanced surface area and hydrogen adsorption. *Chemical Communications*, **2007**, 67-9	5.8	260
120	High-performance membranes from polyimides with intrinsic microporosity. *Advanced Materials*, **2008**, 20, 2766-71	24	255
119	Triptycene-Based Polymers of Intrinsic Microporosity: Organic Materials That Can Be Tailored for Gas Adsorption. *Macromolecules*, **2010**, 43, 5287-5294	5.5	246
118	Catalysis by microporous phthalocyanine and porphyrin network polymers. *Journal of Materials Chemistry*, **2008**, 18, 573-578		229
117	Synthesis, Characterization, and Gas Permeation Properties of a Novel Group of Polymers with Intrinsic Microporosity: PIM-Polyimides. *Macromolecules*, **2009**, 42, 7881-7888	5.5	224
116	Nanoporous organic polymer/cage composite membranes. *Angewandte Chemie - International Edition*, **2013**, 52, 1253-6	16.4	221

115	Atomistic packing model and free volume distribution of a polymer with intrinsic microporosity (PIM-1). *Journal of Membrane Science*, **2008**, 318, 84-99	9.6	192
114	Polymer of Intrinsic Microporosity Incorporating Thioamide Functionality: Preparation and Gas Transport Properties. *Macromolecules*, **2011**, 44, 6471-6479	5.5	189
113	The potential of organic polymer-based hydrogen storage materials. *Physical Chemistry Chemical Physics*, **2007**, 9, 1802-8	3.6	184
112	Sustainable wastewater treatment and recycling in membrane manufacturing. *Green Chemistry*, **2015**, 17, 5196-5205	10	178
111	Enhancement of CO Affinity in a Polymer of Intrinsic Microporosity by Amine Modification. *Macromolecules*, **2014**, 47, 1021-1029	5.5	168
110	Microporous Polymers as Potential Hydrogen Storage Materials. *Macromolecular Rapid Communications*, **2007**, 28, 995-1002	4.8	163
109	Mechanically robust thermally rearranged (TR) polymer membranes with spirobisindane for gas separation. *Journal of Membrane Science*, **2013**, 434, 137-147	9.6	143
108	Characterization of Anacardium occidentale exudate polysaccharide. *Polymer International*, **1998**, 45, 27-35	3.3	138
107	Polymers of Intrinsic Microporosity Derived from Bis(phenazyl) Monomers. *Macromolecules*, **2008**, 41, 1640-1646	5.5	138
106	A nanoporous network polymer derived from hexaazatrinaphthylene with potential as an adsorbent and catalyst support. *Journal of Materials Chemistry*, **2003**, 13, 2721-2726		116
105	Mixed matrix membranes based on UiO-66 MOFs in the polymer of intrinsic microporosity PIM-1. *Separation and Purification Technology*, **2017**, 173, 304-313	8.3	106
104	Solvent nanofiltration through high permeability glassy polymers: Effect of polymer and solute nature. *Journal of Membrane Science*, **2012**, 423-424, 65-72	9.6	102
103	PIM-1 mixed matrix membranes for gas separations using cost-effective hypercrosslinked nanoparticle fillers. *Chemical Communications*, **2016**, 52, 5581-4	5.8	101
102	Adsorption studies of a microporous phthalocyanine network polymer. *Langmuir*, **2006**, 22, 4225-9	4	97
101	Thermally Rearrangeable PIM-Polyimides for Gas Separation Membranes. *Macromolecules*, **2014**, 47, 5595-5606	5.5	95
100	Control of mesostructured silica particle morphology. *Journal of Materials Chemistry*, **2001**, 11, 951-957		95
99	Free Volume Investigation of Polymers of Intrinsic Microporosity (PIMs): PIM-1 and PIM1 Copolymers Incorporating Ethanoanthracene Units. *Macromolecules*, **2010**, 43, 6075-6084	5.5	90
98	Base-catalysed hydrolysis of PIM-1: amide versus carboxylate formation. *RSC Advances*, **2014**, 4, 52189-52198	3.7	70

97	Polymers of Intrinsic Microporosity (PIMs): High Free Volume Polymers for Membrane Applications. *Macromolecular Symposia*, **2006**, 245-246, 403-405	0.8	70
96	Towards Polymer-Based Hydrogen Storage Materials: Engineering Ultramicroporous Cavities within Polymers of Intrinsic Microporosity. *Angewandte Chemie*, **2006**, 118, 1836-1839	3.6	68
95	Selective dye adsorption by chemically-modified and thermally-treated polymers of intrinsic microporosity. *Journal of Colloid and Interface Science*, **2017**, 492, 81-91	9.3	67
94	Graphene oxide–polybenzimidazolium nanocomposite anion exchange membranes for electrodialysis. *Journal of Materials Chemistry A*, **2018**, 6, 24728-24739	13	65
93	Structural Characterization of a Polymer of Intrinsic Microporosity: X-ray Scattering with Interpretation Enhanced by Molecular Dynamics Simulations. *Macromolecules*, **2011**, 44, 14-16	5.5	63
92	Physical aging of polymers of intrinsic microporosity: a SAXS/WAXS study. *Journal of Materials Chemistry A*, **2014**, 2, 11742-11752	13	60
91	High-flux PIM-1/PVDF thin film composite membranes for 1-butanol/water pervaporation. *Journal of Membrane Science*, **2017**, 529, 207-214	9.6	58
90	The synthesis, chain-packing simulation and long-term gas permeability of highly selective spirobifluorene-based polymers of intrinsic microporosity. *Journal of Materials Chemistry A*, **2018**, 6, 10507-10514	13	57
89	Hydroxyalkylaminoalkylamide PIMs: Selective Adsorption by Ethanolamine- and Diethanolamine-Modified PIM-1. *Macromolecules*, **2015**, 48, 5663-5669	5.5	55
88	New organophilic mixed matrix membranes derived from a polymer of intrinsic microporosity and silicalite-1. *Polymer*, **2013**, 54, 2222-2230	3.9	55
87	Review of nanomaterials-assisted ion exchange membranes for electromembrane desalination. *Npj Clean Water*, **2018**, 1,	11.2	53
86	Nanoporous Organic Polymer/Cage Composite Membranes. *Angewandte Chemie*, **2013**, 125, 1291-1294	3.6	52
85	Study of glassy polymers fractional accessible volume (FAV) by extended method of hydrostatic weighing: Effect of porous structure on liquid transport. *Reactive and Functional Polymers*, **2015**, 86, 269-281	4.6	51
84	Polymerization and carbonization of high internal phase emulsions. *Polymer International*, **2005**, 54, 297-303	3.3	51
83	Ultrahigh-permeance PIM-1 based thin film nanocomposite membranes on PAN supports for CO2 separation. *Journal of Membrane Science*, **2018**, 564, 878-886	9.6	45
82	First Clear-Cut Experimental Evidence of a Glass Transition in a Polymer with Intrinsic Microporosity: PIM-1. *Journal of Physical Chemistry Letters*, **2018**, 9, 2003-2008	6.4	44
81	Impeded physical aging in PIM-1 membranes containing graphene-like fillers. *Journal of Membrane Science*, **2018**, 563, 513-520	9.6	44
80	PIM-1/graphene composite: A combined experimental and molecular simulation study. *Microporous and Mesoporous Materials*, **2015**, 209, 126-134	5.3	43

79	Temperature Dependence of Gas Permeation and Diffusion in Triptycene-Based Ultrapermeable Polymers of Intrinsic Microporosity. *ACS Applied Materials & Interfaces*, **2018**, 10, 36475-36482	9.5	43
78	The influence of few-layer graphene on the gas permeability of the high-free-volume polymer PIM-1. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2016**, 374,	3	42
77	The origin of size-selective gas transport through polymers of intrinsic microporosity. *Journal of Materials Chemistry A*, **2019**, 7, 20121-20126	13	42
76	Systematic hydrolysis of PIM-1 and electrospinning of hydrolyzed PIM-1 ultrafine fibers for an efficient removal of dye from water. *Reactive and Functional Polymers*, **2017**, 121, 67-75	4.6	42
75	Enhanced organophilic separations with mixed matrix membranes of polymers of intrinsic microporosity and graphene-like fillers. *Journal of Membrane Science*, **2017**, 526, 437-449	9.6	41
74	Boosting gas separation performance and suppressing the physical aging of polymers of intrinsic microporosity (PIM-1) by nanomaterial blending. *Nanoscale*, **2020**, 12, 23333-23370	7.7	37
73	Chemistry. Putting order into polymer networks. *Science*, **2007**, 316, 210-1	33.3	33
72	Synergistic enhancement of gas selectivity in thin film composite membranes of PIM-1. *Journal of Materials Chemistry A*, **2019**, 7, 6417-6430	13	32
71	Oxyethylene/oxybutylene block copolymers as structure-directing agents in the preparation of mesoporous silica. *Journal of Materials Chemistry*, **2001**, 11, 2979-2984		31
70	Mixed matrix membranes based on MIL-101 metal–organic frameworks in polymer of intrinsic microporosity PIM-1. *Separation and Purification Technology*, **2019**, 212, 545-554	8.3	31
69	Temperature and pressure dependence of gas permeation in amine-modified PIM-1. *Journal of Membrane Science*, **2018**, 555, 483-496	9.6	30
68	Poly(vinylphosphonic acid-co-acrylic acid) hydrogels: The effect of copolymer composition on osteoblast adhesion and proliferation. *Journal of Biomedical Materials Research - Part A*, **2018**, 106, 255-264	5.4	30
67	Unusual temperature dependence of the positron lifetime in a polymer of intrinsic microporosity. *Physica Status Solidi - Rapid Research Letters*, **2007**, 1, 190-192	2.5	29
66	Polymerized high internal phase emulsion monoliths for the chromatographic separation of engineered nanoparticles. *Journal of Applied Polymer Science*, **2015**, 132,	2.9	28
65	Synthesis and characterization of composite membranes made of graphene and polymers of intrinsic microporosity. *Carbon*, **2016**, 102, 357-366	10.4	28
64	Aging of polymers of intrinsic microporosity tracked by methanol vapour permeation. *Journal of Membrane Science*, **2016**, 520, 895-906	9.6	28
63	Study on the formation of thin film nanocomposite (TFN) membranes of polymers of intrinsic microporosity and graphene-like fillers: Effect of lateral flake size and chemical functionalization. *Journal of Membrane Science*, **2018**, 565, 390-401	9.6	28
62	Molecular Mobility of the High Performance Membrane Polymer PIM-1 as Investigated by Dielectric Spectroscopy. *ACS Macro Letters*, **2016**, 5, 528-532	6.6	26

61	Electrospun Adsorptive Nanofibrous Membranes from Ion Exchange Polymers to Snare Textile Dyes from Wastewater. *Advanced Materials Technologies*, **2021**, 6, 2000955	6.8	26
60	Highly monodisperse, lanthanide-containing polystyrene nanoparticles as potential standard reference materials for environmental nanofate analysis. *Journal of Applied Polymer Science*, **2015**, 132, n/a-n/a	2.9	25
59	Enhanced gas separation factors of microporous polymer constrained in the channels of anodic alumina membranes. *Scientific Reports*, **2016**, 6, 31183	4.9	24
58	Synthesis and Transport Properties of Novel MOF/PIM-1/MOF Sandwich Membranes for Gas Separation. *Membranes*, **2017**, 7,	3.8	24
57	Understanding the Topology of the Polymer of Intrinsic Microporosity PIM-1: Cyclics, Tadpoles, and Network Structures and Their Impact on Membrane Performance. *Macromolecules*, **2020**, 53, 569-583	5.5	24
56	Synthesis and Characterization of Poly(vinylphosphonic acid-co-acrylic acid) Copolymers for Application in Bone Tissue Scaffolds. *Macromolecules*, **2016**, 49, 2656-2662	5.5	22
55	Dimethylamino- and trimethylammonium-tipped oxyethyleneoxybutylene diblock copolymers and their use as structure-directing agents in the preparation of mesoporous silica. *Journal of Materials Chemistry*, **2002**, 12, 2286-2291		22
54	Effect of Backbone Rigidity on the Glass Transition of Polymers of Intrinsic Microporosity Probed by Fast Scanning Calorimetry. *ACS Macro Letters*, **2019**, 8, 1022-1028	6.6	21
53	Comparison of pure and mixed gas permeation of the highly fluorinated polymer of intrinsic microporosity PIM-2 under dry and humid conditions: Experiment and modelling. *Journal of Membrane Science*, **2020**, 594, 117460	9.6	21
52	Molecular mobility and gas transport properties of nanocomposites based on PIM-1 and polyhedral oligomeric phenethyl-silsesquioxanes (POSS). *Journal of Membrane Science*, **2017**, 529, 274-285	9.6	20
51	Gas sorption in polymers of intrinsic microporosity: The difference between solubility coefficients determined via time-lag and direct sorption experiments. *Journal of Membrane Science*, **2019**, 570-571, 522-536	9.6	20
50	Poly[oxymethyleneoligo(oxyethylene)] for use in subambient temperature electrochromic devices. *Polymer International*, **2000**, 49, 371-376	3.3	19
49	Gas separation performance of MMMs containing (PIM-1)-functionalized GO derivatives. *Journal of Membrane Science*, **2021**, 623, 118902	9.6	18
48	Characterization of Anadenanthera macrocarpa exudate polysaccharide. *Polymer International*, **1997**, 44, 55-60	3.3	17
47	Correlating Gas Permeability and Young's Modulus during the Physical Aging of Polymers of Intrinsic Microporosity Using Atomic Force Microscopy. *Industrial & Engineering Chemistry Research*, **2020**, 59, 5381-5391	3.9	15
46	Mitigation of Physical Aging with Mixed Matrix Membranes Based on Cross-Linked PIM-1 Fillers and PIM-1. *ACS Applied Materials & Interfaces*, **2020**, 12, 46756-46766	9.5	15
45	Intrinsically Microporous Polymer Nanosheets for High-Performance Gas Separation Membranes. *Macromolecular Rapid Communications*, **2020**, 41, e1900572	4.8	14
44	Bridging the interfacial gap in mixed-matrix membranes by nature-inspired design: precise molecular sieving with polymer-grafted metalorganic frameworks. *Journal of Materials Chemistry A*,	13	14

43	2D boron nitride nanosheets in PIM-1 membranes for CO2/CH4 separation. *Journal of Membrane Science*, **2021**, 636, 119527	9.6	14
42	Pervaporation and vapour permeation of methanol–dimethyl carbonate mixtures through PIM-1 membranes. *Separation and Purification Technology*, **2019**, 217, 206-214	8.3	13
41	Electrostatically-coupled graphene oxide nanocomposite cation exchange membrane. *Journal of Membrane Science*, **2020**, 594, 117457	9.6	13
40	Nuclear magnetic relaxation of 13C nuclei of helical poly(α-hexyl-L-glutamate) and poly(α-benzyl-L-glutamate). *Journal of Polymer Science, Part B: Polymer Physics*, **1991**, 29, 451-456	2.6	12
39	Anomalies in the low frequency vibrational density of states for a polymer with intrinsic microporosity - the Boson peak of PIM-1. *Physical Chemistry Chemical Physics*, **2018**, 20, 1355-1363	3.6	12
38	The potential of polymers of intrinsic microporosity (PIMs) and PIM/graphene composites for pervaporation membranes. *BMC Chemical Engineering*, **2019**, 1,	3.5	10
37	The unique calcium chelation property of poly(vinyl phosphonic acid-co-acrylic acid) and effects on osteogenesis in vitro. *Journal of Biomedical Materials Research - Part A*, **2018**, 106, 168-179	5.4	9
36	Gas Permeation Parameters and Other Physicochemical Properties of a Polymer of Intrinsic Microporosity (PIM-1) **2010**, 29-42		9
35	Environmentally benign and diastereoselective synthesis of 2,4,5-trisubstituted-2-imidazolines. *RSC Advances*, **2017**, 7, 53278-53289	3.7	7
34	Micelle properties of a dimethylamino- and a trimethylammonium-tipped oxyethylene–oxybutylene diblock copolymer in water. *Physical Chemistry Chemical Physics*, **2003**, 5, 3968-3972	3.6	7
33	Upgrading of raw biogas using membranes based on the ultrapermeable polymer of intrinsic microporosity PIM-TMN-Trip. *Journal of Membrane Science*, **2021**, 618, 118694	9.6	7
32	Importance of small loops within PIM-1 topology on gas separation selectivity in thin film composite membranes. *Journal of Materials Chemistry A*,	13	7
31	Gas Transport in Mixed Matrix Membranes: Two Methods for Time Lag Determination. *Computation* , **2020**, 8, 28	2.2	6
30	Graphene/Polyamide Laminates for Supercritical CO2 and H2S Barrier Applications: An Approach toward Permeation Shutdown. *Advanced Materials Interfaces*, **2018**, 5, 1800304	4.6	6
29	Glassy PEEK-WC vs. Rubbery Pebax® 1657 Polymers: Effect on the Gas Transport in CuNi-MOF Based Mixed Matrix Membranes. *Applied Sciences (Switzerland)*, **2020**, 10, 1310	2.6	6
28	Harnessing the enantiomeric recognition ability of hydrophobic polymers of intrinsic microporosity (PIM-1) toward amino acids by converting them into hydrophilic polymer dots. *Journal of Materials Chemistry C*, **2020**, 8, 13827-13835	7.1	6
27	Recovery of free volume in PIM-1 membranes through alcohol vapor treatment. *Frontiers of Chemical Science and Engineering*, **2021**, 15, 872-881	4.5	6
26	Quantification of gas permeability of epoxy resin composites with graphene nanoplatelets. *Composites Science and Technology*, **2019**, 184, 107875	8.6	5

25	Polymers of Intrinsic Microporosity **2009**,		5
24	Effect of end-group modification on the adsorption of poly(ethylene oxide)-b-poly(butylene oxide) diblock copolymers at the solid□quid interface. *Polymer Bulletin*, **2010**, 65, 521-531	2.4	5
23	PIM-1/Holey Graphene Oxide Mixed Matrix Membranes for Gas Separation: Unveiling the Role of Holes. *ACS Applied Materials & Interfaces*, **2021**, 13, 55517-55533	9.5	5
22	Molecular Mobility of a Polymer of Intrinsic Microporosity Revealed by Quasielastic Neutron Scattering. *Macromolecules*, **2020**, 53, 6731-6739	5.5	5
21	Ultrapermeable Polymers of Intrinsic Microporosity Containing Spirocyclic Units with Fused Triptycenes. *Advanced Functional Materials*, **2021**, 31, 2104474	15.6	5
20	High-Flux Thin Film Composite PIM-1 Membranes for Butanol Recovery: Experimental Study and Process Simulations. *ACS Applied Materials & Interfaces*, **2021**, 13, 42635-42649	9.5	5
19	Determination of Physical Properties and Crystallization Kinetics of Oil From Allanblackia Seeds and Shea Nuts Under Different Thermal Conditions. *European Journal of Lipid Science and Technology*, **2018**, 120, 1700156	3	4
18	Graphene-PSS/L-DOPA nanocomposite cation exchange membranes for electrodialysis desalination. *Environmental Science: Nano*, **2020**, 7, 3108-3123	7.1	4
17	Superglassy Polymers to Treat Natural Gas by Hybrid Membrane/Amine Processes: Can Fillers Help?. *Membranes*, **2020**, 10,	3.8	4
16	Novel Mixed Matrix Membranes Based on Polymer of Intrinsic Microporosity PIM-1 Modified with Metal-Organic Frameworks for Removal of Heavy Metal Ions and Food Dyes by Nanofiltration.. *Membranes*, **2021**, 12,	3.8	4
15	Electrophoresis of polymeric dyes in macroporous polymer. *Polymer Bulletin*, **2002**, 49, 33-37	2.4	3
14	Ordered LangmuirBlodgett films derivedfrom a mesogenic polymer amphiphile. *Journal of Materials Chemistry*, **2000**, 10, 2270-2273		3
13	Polymers of Intrinsic Microporosity and Their Potential in Process Intensification **2020**, 231-264		2
12	1.9 Membranes Made of Polymers of Intrinsic Microporosity (PIMs) **2017**, 216-235		1
11	Advanced methods for analysis of mixed gas diffusion in polymeric membranes. *Journal of Membrane Science*, **2022**, 648, 120356	9.6	1
10	Optical Analysis of the Internal Void Structure in Polymer Membranes for Gas Separation. *Membranes*, **2020**, 10,	3.8	1
9	Poly[3-ethyl-1-vinyl-imidazolium] diethyl phosphate/Pebax 1657 Composite Membranes and Their Gas Separation Performance. *Membranes*, **2020**, 10,	3.8	1
8	Influence of Polymer Topology on Gas Separation Membrane Performance of the Polymer of Intrinsic Microporosity PIM-Py. *ACS Applied Polymer Materials*, **2021**, 3, 3485-3495	4.3	1

7	Sieving gases with twisty polymers.. *Science*, **2022**, 375, 1354-1355	33.3	1
6	Cross-Linked PIM-1 Membranes with Improved Stability to Aromatics. *Key Engineering Materials*, **2020**, 869, 431-436	0.4	0
5	Seeking synergy in membranes: blends and mixtures with polymers of intrinsic microporosity. *Current Opinion in Chemical Engineering*, **2022**, 36, 100792	5.4	0
4	Enhancing the organophilic separations with mixed matrix membranes of PIM-1 and bimetallic Zn/Co-ZIF filler. *Separation and Purification Technology*, **2021**, 120216	8.3	0
3	Gas Barriers: Graphene/Polyamide Laminates for Supercritical CO2 and H2S Barrier Applications: An Approach toward Permeation Shutdown (Adv. Mater. Interfaces 15/2018). *Advanced Materials Interfaces*, **2018**, 5, 1870076	4.6	
2	Electrospun Adsorptive Nanofibrous Membranes from Ion Exchange Polymers to Snare Textile Dyes from Wastewater (Adv. Mater. Technol. 10/2021). *Advanced Materials Technologies*, **2021**, 6, 2170059	6.8	
1	Designer Polymers Boost Cation Exchange. *Trends in Chemistry*, **2019**, 1, 797-798	14.8	