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Mixed matrix membranes (MMMs) comprising organic polymers with dispersed inorganic fillers for gas separation

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#	Paper	IF	Citations
1469	Enhancing Mixed-Matrix Membrane Performance with MetalOrganic Framework Additives.		
1468	The upper bound revisited. <b>2008</b> , 320, 390-400		3747
1467	Polymer nanotechnology: Nanocomposites. <b>2008</b> , 49, 3187-3204		2576
1466	Extended Chemical CrossLinking of a Thermoplastic Polyimide: Macroscopic and Microscopic Property Development. <b>2008</b> , 29, 1461-1466		22
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1461	Facile fabrication of a novel high performance CO2 separation membrane: Immobilization of poly(amidoamine) dendrimers in poly(ethylene glycol) networks. <b>2008</b> , 322, 277-280		61
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1459	Preparation and gas separation properties of poly(furfuryl alcohol)-based C/CMS composite membranes. <i>Separation and Purification Technology</i> , <b>2008</b> , 58, 412-418	8.3	62
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1446	A novel method to synthesize high performance silicalite-1 membrane. <i>Separation and Purification Technology</i> , <b>2009</b> , 67, 58-63	8.3	8
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1422	Development of Polysulfone (PSF)-Carbon Molecular Sieve (CMS) Mixed Matrix Membrane (MMM) For O <sub>2</sub> /N <sub>2</sub> Gas Separation. <b>2009</b> ,		11
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1386	Membrane-based technologies for biogas separations. <b>2010</b> , 39, 750-68	395
1385	Polymer Blends in Membrane Transport Processes. <b>2010</b> , 49, 11859-11865	91
1384	Hollow filler based mixed matrix membranes. <b>2010</b> , 46, 2492-4	68
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1372	Polyetheramine/polyhedral oligomeric silsesquioxane organic/inorganic hybrid membranes for CO <sub>2</sub> /H <sub>2</sub> and CO <sub>2</sub> /N <sub>2</sub> separation. <b>2011</b> , 385-386, 40-48	60
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1368	Analysis of the Development of Membrane Technology for Gas Separation and CO <sub>2</sub> Capture. <b>2011</b> , 7-26	6
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1356	Fabrication and characterization of polysulfone/polyimide/zeolite mixed matrix membrane for gas separation. <b>2011</b> , 171, 1469-1476		141
1355	Mixed matrix membrane incorporated with large pore size halloysite nanotubes (HNTs) as filler for gas separation: Morphological diagram. <b>2011</b> , 172, 581-590		52
1354	A novel cellulose acetate (CA) membrane using TiO <sub>2</sub> nanoparticles: Preparation, characterization and permeation study. <b>2011</b> , 277, 40-45		168
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1352	Copolyimide mixed matrix membranes with oriented microporous titanosilicate JDF-L1 sheet particles. <b>2011</b> , 370, 131-140		63
1351	Pebax/POSS mixed matrix membranes for ethanol recovery from aqueous solutions via pervaporation. <b>2011</b> , 379, 174-183		148
1350	Mixed matrix membranes comprising glassy polymers and dispersed mesoporous silica spheres for gas separation. <b>2011</b> , 368, 100-109		163
1349	Novel mixed matrix membranes based on polymerizable room-temperature ionic liquids and SAPO-34 particles to improve CO <sub>2</sub> separation. <b>2011</b> , 370, 141-148		155
1348	Prediction of the relative permeability of gases in mixed matrix membranes. <b>2011</b> , 373, 152-159		83
1347	Perspectives on mixed matrix membranes. <b>2011</b> , 378, 393-397		175
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1345	Amine-functionalized zeolite FAU/EMT-polyimide mixed matrix membranes for CO <sub>2</sub> /CH <sub>4</sub> separation. <b>2011</b> , 379, 468-478		124

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1343	Mixed matrix membrane incorporated with large pore size halloysite nanotubes (HNT) as filler for gas separation: experimental. <b>2011</b> , 359, 359-70		91
1342	The effect of TiO <sub>2</sub> nanoparticles on gas transport properties of Matrimid5218-based mixed matrix membranes. <i>Separation and Purification Technology</i> , <b>2011</b> , 77, 128-136	8.3	154
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1339	Fabrication or preparation and characterization of new modified MCM-41/PSF nanocomposite membrane coated by PDMS. <i>Separation and Purification Technology</i> , <b>2011</b> , 80, 556-565	8.3	33
1338	Research on the preparation of AgCl/C12mimCl-PMMA inorganic-organic hybrid membranes via ionic liquid-microemulsion polymerization. <b>2011</b> ,		
1337	Study on Microstructure and Mechanical Properties of Epoxy Resin/Carbon Black Composites Prepared by in Situ Polymerization. <b>2011</b> , 109, 156-160		2
1336	Synthesis and Properties of Epoxy Resin/Graphite Composites via In Situ Polymerization. <b>2011</b> , 415-417, 358-361		
1335	Polymeric membranes for natural gas processing. <b>2011</b> , 339-360		5
1334	Mixed matrix membranes based on hyperbranched polyimide and mesoporous silica for gas separation. <b>2011</b> , 34, 211-215		16
1333	Membranes, adsorbent materials and solvent-based materials for syngas and hydrogen separation. <b>2012</b> , 179-216		5
1332	Modifications of Polymeric Membranes by Incorporating Metal/Metal Oxide Nanoparticles. <b>2012</b> , 77-118		1
1331	Amine-Functionalized MIL-53 Metal-Organic Framework in Polyimide Mixed Matrix Membranes for CO <sub>2</sub> /CH <sub>4</sub> Separation. <b>2012</b> , 51, 6895-6906		164
1330	Mixed matrix membranes of Matrimid 5218 loaded with zeolite 4A for pervaporation separation of water/isopropanol mixtures. <b>2012</b> , 90, 2353-2363		49
1329	Evolution of polymeric hollow fibers as sustainable technologies: Past, present, and future. <i>Progress in Polymer Science</i> , <b>2012</b> , 37, 1401-1424	29.6	292
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1327	Metal Organic Framework Containing Mixed Matrix Membranes for Gas Separation: A Different Approach to Mmm Preparation Methods. <b>2012</b> , 44, 106-107		2

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1325	Detailed Investigation on Laboratory Scale Mixed-matrix-membrane Preparation for Gas Separation. <b>2012</b> , 44, 1870-1872	1
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1321	Preparation of composite membranes with bicontinuous structure. <b>2012</b> , 28, 8197-204	2
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1317	Polybenzimidazole (PBI)/zeolitic imidazolate frameworks (ZIF-8) mixed matrix membranes for pervaporation dehydration of alcohols. <b>2012</b> , 415-416, 577-586	183
1316	Gas permeability properties of decorated MCM-41/polyethylene hybrids prepared by in-situ polymerization. <b>2012</b> , 415-416, 702-711	33
1315	Development of alumina supported ternary mixed matrix membranes for separation of H <sub>2</sub> /light-alkane mixtures. <b>2012</b> , 415-416, 725-733	6
1314	Structurally modified polybenzimidazole hollow fibre membranes with enhanced gas permeation properties. <b>2012</b> , 415-416, 793-800	36
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1312	Composite membranes comprising of polyvinylamine-poly(vinyl alcohol) incorporated with carbon nanotubes for dehydration of ethylene glycol by pervaporation. <b>2012</b> , 417-418, 34-44	97
1311	Effect of feed gas composition on the separation of CO <sub>2</sub> /CH <sub>4</sub> mixtures by PES-SAPO 34-HMA mixed matrix membranes. <b>2012</b> , 417-418, 45-51	47
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1307	Investigation of cross-linked and additive containing polymer materials for membranes with improved performance in pervaporation and gas separation. <b>2012</b> , 2, 727-63		63
1306	Metal-organic frameworks in mixed-matrix membranes for gas separation. <b>2012</b> , 41, 14003-27		391
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1304	Hydrogen separation and purification using crosslinkable PDMS/zeolite A nanoparticles mixed matrix membranes. <b>2012</b> , 37, 14576-14589		137
1303	The effect of silver nanoparticle size on performance and antibacteriability of polysulfone ultrafiltration membrane. <b>2012</b> , 306, 41-50		158
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1290	Gas Separation Properties of Polyimide-Zeolite Mixed Matrix Membranes. <b>2012</b> , 47, 950-962	39
1289	Bioadhesion-inspired polymer/inorganic nanohybrid membranes with enhanced CO <sub>2</sub> capture properties. <b>2012</b> , 22, 19617	53
1288	Inorganic membranes. <b>2012</b> , 1, 156-162	59
1287	Preparation and Characterization of AgA Zeolite/Polysulfone Membranes. <b>2012</b> , 549, 401-405	
1286	Preparation and Characterization of Iron Oxides /Polymer Composite Membranes. <b>2012</b> , 47, 1390-1394	26
1285	Hyperbranched Polyimides Prepared from 4,4',4''-Triaminotriphenylmethane and Mixed Matrix Materials Based on Them. <b>2012</b> ,	1
1284	Molecular Dynamics Investigation into the High Permeability and High Selectivity of Nano-Porous Polyimide Membranes for the Green Separation of Natural Gas. <b>2012</b> , 10, 63-68	
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1282	Effect of titanium dioxide nanoparticles on polydimethylsiloxane/polyethersulfone composite membranes for gas separation. <b>2012</b> , 52, 2664-2674	36
1281	Polymeric Gas Separation Membranes. <b>2012</b> , 45, 3298-3311	537
1280	Improvement in gas separation properties of a polymeric membrane through the incorporation of inorganic nano-particles. <b>2012</b> , 23, 1101-1111	17
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1278	Mixed-Matrix Membrane for Gas Separation: Polydimethylsiloxane Filled with Zeolite. <b>2012</b> , 35, 561-569	57
1277	Synthesis by nitroxide-mediated aqueous dispersion polymerization, characterization, and physical core-crosslinking of pH- and thermoresponsive dynamic diblock copolymer micelles. <b>2012</b> , 3, 1526	41
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1275	Pure and mixed gas CH <sub>4</sub> and n-C <sub>4</sub> H <sub>10</sub> permeation in PDMS-fumed silica nanocomposite membranes. <b>2012</b> , 191, 369-377	24
1274	Preparation and characterization of mixed matrix membranes based on PVDF and three inorganic fillers (fumed nonporous silica, zeolite 4A and mesoporous MCM-41) for gas separation. <b>2012</b> , 192, 201-210	101
1273	New permeation models for nanocomposite polymeric membranes filled with nonporous particles. <b>2012</b> , 90, 563-575	43

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1271	TiO <sub>2</sub> embedded mixed matrix PES nanocomposite membranes: Influence of different sizes and types of nanoparticles on antifouling and performance. <b>2012</b> , 292, 19-29		356
1270	Studies on gas permeation performance of asymmetric polysulfone hollow fiber mixed matrix membranes using nanosized fumed silica as fillers. <i>Separation and Purification Technology</i> , <b>2012</b> , 86, 41-48	8.3	51
1269	A comparison on gas separation between PES (polyethersulfone)/MMT (Na-montmorillonite) and PES/TiO <sub>2</sub> mixed matrix membranes. <i>Separation and Purification Technology</i> , <b>2012</b> , 92, 57-63	8.3	94
1268	Nanocomposite carbon-PDMS membranes for gas separation. <b>2012</b> , 161, 982-988		48
1267	Thermal induced structural rearrangement of cardo-copolybenzoxazole membranes for enhanced gas transport properties. <b>2012</b> , 397-398, 51-65		78
1266	Boehmite nanoparticles as a new nanofiller for preparation of antifouling mixed matrix membranes. <b>2012</b> , 401-402, 132-143		283
1265	Ultem <sup>®</sup> /ZIF-8 mixed matrix hollow fiber membranes for CO <sub>2</sub> /N <sub>2</sub> separations. <b>2012</b> , 401-402, 76-82		253
1264	Molecular engineering of PIM-1/Matrimid blend membranes for gas separation. <b>2012</b> , 407-408, 47-57		151
1263	Exfoliated zeolite Nu-6(2) as filler for 6FDA-based copolyimide mixed matrix membranes. <b>2012</b> , 411-412, 146-152		20
1262	Molecular design of nanohybrid gas separation membranes for optimal CO <sub>2</sub> separation. <b>2012</b> , 53, 454-465		15
1261	Mixed matrix membranes based on 3-aminopropyltriethoxysilane endcapped polyimides and silicalite-1. <b>2012</b> , 124, E233-E240		11
1260	Modeling and simulation for direct contact membrane distillation in hollow fiber modules. <b>2013</b> , 59, 589-603		29
1259	Development of mixed matrix membranes for controlled release of ibuprofen. <b>2013</b> , 128, 754-760		16
1258	CNT/PDMS composite membranes for H <sub>2</sub> and CH <sub>4</sub> gas separation. <b>2013</b> , 38, 10494-10501		75
1257	Water Transport in Polylactide and Polylactide/Montmorillonite Composites. <b>2013</b> , 21, 8-15		7
1256	Influence of inorganic fillers on the structural and transport properties of mixed matrix membranes. <b>2013</b> , 128, 4058-4066		17
1255	Recent advances in the fabrication of advanced composite membranes. <b>2013</b> , 1, 10058		219

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1253	Amine-functionalized SBA-15 in poly(styrene- <i>b</i> -butadiene- <i>b</i> -styrene) (SBS) yields permeable and selective nanostructured membranes for gas separation. <b>2013</b> , 1, 11853	35
1252	High performance PIM-1/Matrimid hollow fiber membranes for CO <sub>2</sub> /CH <sub>4</sub> , O <sub>2</sub> /N <sub>2</sub> and CO <sub>2</sub> /N <sub>2</sub> separation. <b>2013</b> , 443, 156-169	105
1251	Polyvinyl acetate/titanium dioxide nanocomposite membranes for gas separation. <b>2013</b> , 445, 200-210	61
1250	Membrane Separation of CO <sub>2</sub> from Natural Gas: A State-of-the-Art Review on Material Development. <b>2013</b> , 333, 135-147	6
1249	Synthesis and optimization of PES-Fe <sub>3</sub> O <sub>4</sub> mixed matrix nanocomposite membrane: Application studies in water purification. <b>2013</b> , 34, 1870-1877	55
1248	Theoretical and experimental studies on the gas transport properties of mixed matrix membranes based on polyvinylidene fluoride. <b>2013</b> , 59, 4715-4726	24
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1246	An approach to prepare defect-free PES/MFI-type zeolite mixed matrix membranes for CO <sub>2</sub> /N <sub>2</sub> separation. <b>2013</b> , 48, 3782-3788	16
1245	Gas permeation and separation properties of polyimide/ZSM-5 zeolite composite membranes containing liquid sulfolane. <b>2013</b> , 128, 3814-3823	22
1244	Effects of poly (allylamine hydrochloride) as a new functionalization agent for preparation of poly vinyl alcohol/multiwalled carbon nanotubes membranes. <b>2013</b> , 447, 315-324	31
1243	Hyperbranched Polyimide-Silica Hybrid Materials: Synthesis, Structure, Dynamics, and Gas Transport Properties. <b>2013</b> , 52, 632-649	4
1242	Preparation and characterization of dimethyldichlorosilane modified SiO <sub>2</sub> /PSf nanocomposite membrane. <b>2013</b> , 30, 751-760	30
1241	PAMAM Dendrimer Containing Polymeric Membrane for Preferential CO <sub>2</sub> Separation Over H <sub>2</sub> - Interplay between CO <sub>2</sub> Separation Properties and Morphology. <b>2013</b> , 37, 1067-1075	5
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1239	Mixed-Matrix Membranes. <b>2013</b> , 1	0
1238	Effect of MFI zeolite intermediate layers on gas separation performance of carbon molecular sieve (CMS) membranes. <b>2013</b> , 446, 220-229	21
1237	The development of high-performance 6FDA-NDA/DABA/POSS/Ultem® dual-layer hollow fibers for ethanol dehydration via pervaporation. <b>2013</b> , 447, 163-176	38

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1235	Recent Applications of Polymer Blends in Gas Separation Membranes. <b>2013</b> , 36, 1838-1846	119
1234	CO <sub>2</sub> /N <sub>2</sub> separations with mixed-matrix membranes containing Mg <sub>2</sub> (dobdc) nanocrystals. <b>2013</b> , 6, 3565	164
1233	Decorated MCM-41/polyethylene hybrids: Crystalline details and viscoelastic behavior. <b>2013</b> , 54, 2611-2620	16
1232	Nanometric thin skinned dual-layer hollow fiber membranes for dehydration of isopropanol. <b>2013</b> , 59, 2943-2956	12
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1230	Interfacial morphology between the two layers of the dual-layer asymmetric hollow fiber membranes fabricated by co-extrusion and dry-jet wet-spinning phase-inversion techniques. <b>2013</b> , 444, 482-492	13
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1224	Gas separation membrane with CO <sub>2</sub> -facilitated transport highway constructed from amino carrier containing nanorods and macromolecules. <b>2013</b> , 1, 246-249	70
1223	Separation technologies for current and future biorefineries—status and potential of membrane-based separation. <b>2013</b> , 2, 673-690	5
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1219	Toughening of poly(l-lactic acid) with Cu <sub>3</sub> BTC <sub>2</sub> metal organic framework crystals. <b>2013</b> , 54, 6979-6986	20

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1199	Carbon dioxide removal from methane by using polysulfone/SAPO-44 mixed matrix membranes. <b>2013</b> , 112, 1-6		38
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1193	Current challenges in membrane separation of CO <sub>2</sub> from natural gas: A review. <b>2013</b> , 17, 46-65		254
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1191	Polymeric mixed matrix membranes containing zeolites as a filler for gas separation applications: A review. <b>2013</b> , 19, 375-393		428
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1164	Development of Mixed Matrix Membranes Containing Zeolites for Post-combustion Carbon Capture.. <b>2014</b> , 63, 160-166		38
1163	Effects of Montmorillonite (MMT) Inorganic Fillers on Polyvinylidene (PVDF) Mixed Matrix Membrane. <b>2014</b> , 625, 696-700		4
1162	Interfacial Defects on Mixed Matrix Membranes and Mitigation Techniques for Gas Separation: A Review. <b>2014</b> , 625, 653-656		5
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1154	Counterintuitive Gas Transport through Polymeric Nanocomposite Membrane: Insights from Molecular Dynamics Simulations. <b>2014</b> , 118, 28179-28188		6
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1148	Preparation and Characterization of (PVC-Blend-SBR) Mixed Matrix Gas Separation Membrane Filled with Zeolite. <b>2014</b> , 39, 605-614		7
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1141	Prediction of gas permeability of block-segregated polymeric membranes by an effective medium model. <b>2014</b> , 453, 27-35		14
1140	Interfacially polymerized thin film nanofiltration membranes on TiO <sub>2</sub> coated polysulfone substrate. <b>2014</b> , 20, 1261-1268		89
1139	Recent progress in fluoropolymers for membranes. <i>Progress in Polymer Science</i> , <b>2014</b> , 39, 164-198	29,6	313
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1137	Mixed-linker zeolitic imidazolate framework mixed-matrix membranes for aggressive CO <sub>2</sub> separation from natural gas. <b>2014</b> , 192, 43-51		82
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1135	Comparative permeation studies on three supported membranes: Pure ZIF-8, pure polymethylphenylsiloxane, and mixed matrix membranes. <b>2014</b> , 189, 210-215		42
1134	Zeolitic imidazolate framework composite membranes and thin films: synthesis and applications. <b>2014</b> , 43, 4470-93		463
1133	Mixed matrix membranes comprising MOFs and porous silicate fillers prepared via spin coating for gas separation. <b>2014</b> , 107, 66-75		74
1132	Adsorption-concentration polarization model for ultrafiltration in mixed matrix membrane. <b>2014</b> , 60, 2354-2364		7
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1127	Mixed matrix membranes for organic solvent nanofiltration. <b>2014</b> , 452, 354-366		96
1126	Mixed matrix membranes comprising silica-(ZIF-8) core-shell spheres with ordered mesoporous porosity for natural- and bio-gas upgrading. <b>2014</b> , 452, 184-192		90
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1119	A comprehensive computational strategy for fitting experimental permeation data of mixed matrix membranes. <b>2014</b> , 452, 271-276		16
1118	Cardo polyimides/TiO <sub>2</sub> mixed matrix membranes: Synthesis, characterization, and gas separation property improvement. <i>Separation and Purification Technology</i> , <b>2014</b> , 122, 367-375	8.3	27
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1104	A composite of a graphene oxide derivative as a novel sensing layer in an organic field-effect transistor. <b>2014</b> , 2, 4539-4544	28
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1100	Stiff metal-organic framework/polyacrylonitrile hollow fiber composite membranes with high gas permeability. <b>2014</b> , 2, 2110-2118	100
1099	Enhanced water permeation through sodium alginate membranes by incorporating graphene oxides. <b>2014</b> , 469, 272-283	180
1098	Satellite TiO <sub>2</sub> nanoparticles induced by silver ion in polymer electrolytes membrane for propylene/propane separation. <b>2014</b> , 148, 790-797	8
1097	Synthesis, structural characterization and properties of novel functional poly(ether imide)/titania nanocomposite thin films. <b>2014</b> , 55, 6252-6260	27
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1093	Using iron (III) acetylacetonate as both a cross-linker and micropore former to develop polyimide membranes with enhanced gas separation performance. <i>Separation and Purification Technology</i> , <b>2014</b> , 133, 120-128	8.3 14

1092	Nanosilica and H-Mordenite incorporated Poly(ether-block-amide)-1657 membranes for gaseous separations. <b>2014</b> , 197, 291-298		47
1091	Creation of hierarchical structures within membranes by incorporating mesoporous microcapsules for enhanced separation performance and stability. <b>2014</b> , 2, 5267		24
1090	Silver nanoparticle/PDMS nanocomposite catalytic membranes for H <sub>2</sub> S gas removal. <b>2014</b> , 470, 346-355		35
1089	AcrylonitrileButadieneStyrene/poly(vinyl acetate)/nanosilica mixed matrix membrane for He/CH <sub>4</sub> separation. <b>2014</b> , 9, 638-644		33
1088	Enhanced proton conductivity of the hybrid membranes by regulating the proton conducting groups anchored on the mesoporous silica. <b>2014</b> , 270, 292-303		33
1087	Carbon dioxide permeation study through carbon hollow fiber membranes at pressures up to 55 bar. <i>Separation and Purification Technology</i> , <b>2014</b> , 134, 158-162	8.3	11
1086	Functionalized Graphene Sheets Embedded in Chitosan Nanocomposite Membranes for Ethanol and Isopropanol Dehydration via Pervaporation. <b>2014</b> , 53, 14474-14484		142
1085	Enhanced CO <sub>2</sub> permeability of membranes by incorporating polyzwitterion@CNT composite particles into polyimide matrix. <b>2014</b> , 6, 13051-60		66
1084	para-Toluene sulfonic acid treated clay loaded sodium alginate membranes for enhanced pervaporative dehydration of isopropanol. <i>Applied Clay Science</i> , <b>2014</b> , 101, 419-429	5.2	71
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1069	Post-treatment effect on gas separation property of mixed matrix membranes containing metal organic frameworks. <b>2014</b> , 466, 92-102	59
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1067	Influence of various types of silica nanoparticles on permeation properties of polyurethane/silica mixed matrix membranes. <b>2014</b> , 453, 369-383	76
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1057	Fabrication and characterization of Matrimid/MIL-53 mixed matrix membrane for CO <sub>2</sub> /CH <sub>4</sub> separation. <b>2014</b> , 92, 2439-2448	108

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774	Mixed matrix hollow fibre membrane comprising polyetherimide and modified montmorillonite with improved filler dispersion and CO <sub>2</sub> /CH <sub>4</sub> separation performance. <i>Applied Clay Science</i> , <b>2017</b> , 143, 115-124	5.2 23
773	Structure-controlled mesoporous SBA-15-derived mixed matrix membranes for H <sub>2</sub> purification and CO <sub>2</sub> capture. <b>2017</b> , 42, 11379-11391	17
772	Graphene oxide membranes supported on the ceramic hollow fibre for efficient H <sub>2</sub> recovery. <b>2017</b> , 25, 752-759	31
771	TpPa-2-incorporated mixed matrix membranes for efficient water purification. <b>2017</b> , 526, 355-366	52
770	Widening CO <sub>2</sub> -facilitated transport passageways in SPEEK matrix using polymer brushes functionalized double-shelled organic submicrocapsules for efficient gas separation. <b>2017</b> , 525, 330-341	13
769	Preparation and characterization of (Pebax 1657 + silica nanoparticle)/PVC mixed matrix composite membrane for CO <sub>2</sub> /N <sub>2</sub> separation. <b>2017</b> , 71, 803-818	32

768	Effective enhancement of gas separation performance in mixed matrix membranes using core/shell structured multi-walled carbon nanotube/graphene oxide nanoribbons. <b>2017</b> , 28, 065702	31
767	Enhanced permeation performance of polyether-polyamide block copolymer membranes through incorporating ZIF-8 nanocrystals. <b>2017</b> , 25, 882-891	25
766	Preparation and gas separation performance of mixed-matrix membranes based on triptycene-containing polyimide and zeolite imidazole framework (ZIF-90). <b>2017</b> , 131, 209-216	26
765	Highly CO Selective Microporous Metal-Imidazolate Framework-Based Mixed Matrix Membranes. <b>2017</b> , 9, 35936-35946	11
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763	Novel ZIF-300 Mixed-Matrix Membranes for Efficient CO Capture. <b>2017</b> , 9, 38575-38583	42
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761	Porous graphene nanosheets functionalized thin film nanocomposite membrane prepared by interfacial polymerization for CO <sub>2</sub> /N <sub>2</sub> separation. <b>2017</b> , 543, 58-68	34
760	Influence of Functionalized Nanoparticles on the CO <sub>2</sub> /N <sub>2</sub> Separation Properties of PVA-based Gas Separation Membranes. <b>2017</b> , 114, 627-635	16
759	Exploration of the nanostructures and separation properties of cross-linked mixed matrix membranes using multiscale modeling. <b>2017</b> , 543, 328-334	6
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757	Electrospun API-loaded mixed matrix membranes for controlled release. <b>2017</b> , 7, 43300-43309	3
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753	Synthesis of Coordination Polymer Nanoparticles using Self-Assembled Block Copolymers as Template. <b>2017</b> , 23, 18093-18100	28
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749	Modified Bruggeman models for prediction of CO <sub>2</sub> permeance in polycarbonate/silica nanocomposite membranes. <b>2017</b> , 95, 2398-2409		12
748	Recent progress of fillers in mixed matrix membranes for CO <sub>2</sub> separation: A review. <i>Separation and Purification Technology</i> , <b>2017</b> , 188, 431-450	8.3	224
747	Recent advances on mixed matrix membranes for CO <sub>2</sub> separation. <b>2017</b> , 25, 1581-1597		80
746	WITHDRAWN: Synthesis, characterization of zeolitic imidazolate frameworks 8 (ZIF 8) and carbon molecular sieves (CMS) membranes for gas separation. <b>2017</b> ,		
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743	Two-Dimensional Materials as Prospective Scaffolds for Mixed-Matrix Membrane-Based CO Separation. <b>2017</b> , 10, 3304-3316		57
742	Nanoparticles Embedded in Amphiphilic Membranes for Carbon Dioxide Separation and Dehumidification. <b>2017</b> , 10, 4046-4055		25
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734	Effect of mixed matrix membranes comprising a novel trinuclear zinc MOF, fumed silica nanoparticles and PES on CO <sub>2</sub> /CH <sub>4</sub> separation. <b>2017</b> , 125, 156-165		11
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731	Embedding Molecular Amine Functionalized Polydopamine Submicroparticles into Polymeric Membrane for Carbon Capture. <b>2017</b> , 56, 8103-8110	12
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728	Gas-separation properties of amine-crosslinked polyimide membranes modified by amine vapor. <b>2017</b> , 134,	7
727	Enhanced gas separation performance using mixed matrix membranes containing zeolite T and 6FDA-durene polyimide. <b>2017</b> , 525, 175-186	64
726	Mixed-matrix membranes incorporated with porous shape-persistent organic cages for gas separation. <b>2017</b> , 490, 29-36	27
725	Advances in polymer-inorganic hybrids as membrane materials. <b>2017</b> , 163-206	12
724	Membrane-Based Gas Separation Accelerated by Hollow Nanosphere Architectures. <b>2017</b> , 29, 1603797	40
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718	High CO <sub>2</sub> separation performance of Pebax/CNTs/GTA mixed matrix membranes. <b>2017</b> , 521, 104-113	97
717	Facilitated transport membranes by incorporating graphene nanosheets with high zinc ion loading for enhanced CO <sub>2</sub> separation. <b>2017</b> , 522, 351-362	72
716	Study of different titanosilicate (TS-1 and ETS-10) as fillers for Mixed Matrix Membranes for CO <sub>2</sub> /CH <sub>4</sub> gas separation applications. <b>2017</b> , 523, 24-35	42
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705	Separation of isopropyl alcohol/benzene mixtures by pervaporation using poly(vinyl alcohol) membrane. <b>2017</b> , 10, S56-S61		13
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699	A Review on the Production and Purification of Biomass-Derived Hydrogen Using Emerging Membrane Technologies. <b>2017</b> , 7, 297		35
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697	Polymeric Nanocomposite Membranes for Next Generation Pervaporation Process: Strategies, Challenges and Future Prospects. <b>2017</b> , 7,		70

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692	Mixed Matrix Membranes for Natural Gas Upgrading: Current Status and Opportunities. <b>2018</b> , 57, 4139-4169	76
691	Enhanced CO <sub>2</sub> separation performance for tertiary amine-silica membranes via thermally induced local liberation of CH <sub>3</sub> Cl. <b>2018</b> , 64, 1528-1539	14
690	Synthesis of rice straw extracted nano-silica-composite membrane for CO <sub>2</sub> separation. <b>2018</b> , 186, 241-252	38
689	Fabrication of mixed-matrix membranes with MOF-derived porous carbon for CO <sub>2</sub> separation. <b>2018</b> , 64, 3400-3409	20
688	Enhancement of separation performance of nano hybrid PES/TiO <sub>2</sub> membrane using three combination effects of ultraviolet irradiation, ethanol-acetone immersion, and thermal annealing process for CO <sub>2</sub> removal. <b>2018</b> , 6, 2865-2873	13
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684	Enhanced separation of Toluene and Xylene through surface modified porous carbon matrix. <b>2018</b> , 26, 205-209	4
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675	Mixed matrix formulations with MOF molecular sieving for key energy-intensive separations. <b>2018</b> , 17, 283-289		298
674	Synergistic effects of zeolite imidazole framework@graphene oxide composites in humidified mixed matrix membranes on CO separation.. <b>2018</b> , 8, 6099-6109		54
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671	Mixed-matrix materials using metal-organic polyhedra with enhanced compatibility for membrane gas separation. <b>2018</b> , 47, 7905-7915		31
670	Preparation of mixed matrix membranes based on polyimide and aminated graphene oxide for CO <sub>2</sub> separation. <b>2018</b> , 29, 1334-1343		33
669	Increasing M <sub>2</sub> (dobdc) Loading in Selective Mixed-Matrix Membranes: A Rubber Toughening Approach. <b>2018</b> , 30, 1484-1495		34
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667	Effects of nanofillers on the characteristics and performance of PEBA-based mixed matrix membranes. <b>2018</b> , 34, 797-836		19
666	The Lifshitz-van der Waals acid-base theory assisted fabrication of MFI-containing mixed matrix membranes for gas separations. <b>2018</b> , 264, 60-69		6
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664	Accelerating Membrane-based CO Separation by Soluble Nanoporous Polymer Networks Produced by Mechanochemical Oxidative Coupling. <b>2018</b> , 57, 2816-2821		40
663	Accelerating Membrane-based CO <sub>2</sub> Separation by Soluble Nanoporous Polymer Networks Produced by Mechanochemical Oxidative Coupling. <b>2018</b> , 130, 2866-2871		10
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659	Evaluation of the Forward Osmosis Performance of Cellulose Acetate Nanocomposite Membranes. <b>2018</b> , 43, 5871-5879		3
658	Engineered Transport in Microporous Materials and Membranes for Clean Energy Technologies. <b>2018</b> , 30, 1704953		67
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655	Novel mixed-matrix membranes based on polyvinyl alcohol modified by carboxyfullerene for pervaporation dehydration. <i>Separation and Purification Technology</i> , <b>2018</b> , 204, 1-12	8.3	28
654	Supported PEBA-zeolite 13X nano-composite membranes for gas separation: Preparation, characterization and molecular dynamics simulation. <b>2018</b> , 187, 67-78		26
653	Enhanced CO <sub>2</sub> separation performance by PVA/PEG/silica mixed matrix membrane. <b>2018</b> , 135, 46481		20
652	Metal-organic framework/graphene oxide composite fillers in mixed-matrix membranes for CO <sub>2</sub> separation. <b>2018</b> , 212, 513-522		51
651	Preparation and characterization of MWCNT-TEPA/polyurethane nanocomposite membranes for CO <sub>2</sub> /CH <sub>4</sub> separation: Experimental and modeling. <b>2018</b> , 133, 222-234		15
650	Solvent resistant hollow fiber membranes comprising P84 polyimide and amine-functionalized carbon nanotubes with potential applications in pharmaceutical, food, and petrochemical industries. <b>2018</b> , 345, 174-185		56
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648	Enhanced gas separation performance of mixed matrix hollow fiber membranes containing post-functionalized S-MIL-53. <b>2018</b> , 27, 781-790		13
647	Optical, mechanical, and transport studies of nanodiamonds/poly(phenylene oxide) composites. <b>2018</b> , 39, 3952-3961		6
646	Synthesis and electrochemical behaviour of polyvinyl chloride based Tin (IV) TungstoArsenate composite membrane for purification of aqueous contaminated electrolyte solutions. <b>2018</b> , 7, 483-489		2
645	Enhancement of CO <sub>2</sub> /CH <sub>4</sub> separation performances of 6FDA-based co-polyimides mixed matrix membranes embedded with UiO-66 nanoparticles. <i>Separation and Purification Technology</i> , <b>2018</b> , 192, 465-474	8.3	53
644	Inorganic Membranes for Hydrogen Separation. <b>2018</b> , 47, 229-266		34
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641	Polyurethane-mesoporous silica gas separation membranes. <b>2018</b> , 29, 874-883	26
640	Effects of industrial gas impurities on the performance of mixed matrix membranes. <b>2018</b> , 549, 686-692	10
639	Ferrierite-poly(vinyl acetate) mixed matrix membranes for gas separation: A comparative study. <b>2018</b> , 259, 17-25	3
638	Vacuum-assisted assembly of ZIF-8@GO composite membranes on ceramic tube with enhanced organic solvent nanofiltration performance. <b>2018</b> , 545, 158-166	80
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636	Continuous assembly of a polymer on a metal-organic framework (CAP on MOF): a 30 nm thick polymeric gas separation membrane. <b>2018</b> , 11, 544-550	93
635	Gas permeation modeling of mixed matrix membranes: Adsorption isotherms and permeability models. <b>2018</b> , 39, 4560-4568	17
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633	Nanoporous ZIF-67 embedded polymers of intrinsic microporosity membranes with enhanced gas separation performance. <b>2018</b> , 548, 309-318	86
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631	Molecular modeling of the gaseous penetrants permeabilities through 4A, DDR and silicalite-1 zeolites incorporated in mixed matrix membranes. <b>2018</b> , 53, 910-927	3
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629	Mixed-matrix membranes containing an azine-linked covalent organic framework: Influence of the polymeric matrix on post-combustion CO <sub>2</sub> -capture. <b>2018</b> , 549, 377-384	43
628	Effect of humidity and nanocellulose content on Polyvinylamine-nanocellulose hybrid membranes for CO <sub>2</sub> capture. <b>2018</b> , 548, 263-274	37
627	Surface modification of molecular sieve fillers for mixed matrix membranes. <b>2018</b> , 538, 333-342	9
626	High performance composite membranes comprising Zn(pyrz) <sub>2</sub> (SiF <sub>6</sub> ) nanocrystals for CO <sub>2</sub> /CH <sub>4</sub> separation. <b>2018</b> , 60, 279-285	31
625	Metal organic framework based mixed matrix membranes: an overview on filler/polymer interfaces. <b>2018</b> , 6, 293-312	235

624	Synthesis and characterization of green membranes polyimide/titania bionanocomposites containing amino acid and benzimidazole moieties for gas transport properties. <b>2018</b> , 58, 1666-1677	1
623	Interfacial control in perfluoropolymer mixed matrix membranes for natural gas sweetening. <b>2018</b> , 60, 169-176	15
622	Isothermal membrane-based air dehumidification: A comprehensive review. <b>2018</b> , 82, 4060-4069	60
621	The growth of high density network of MOF nano-crystals across macroporous metal substrates □ Solvothermal synthesis versus rapid thermal deposition. <b>2018</b> , 427, 401-408	16
620	Temperature-Responsive Membranes. <b>2018</b> , 25, 67-113	4
619	Synthesis and Gas Transport Properties of Poly(2,6-dimethyl-1,4-phenylene oxide)?Silica Nanocomposite Membranes. <b>2018</b> , 8,	0
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614	A review of material development in the field of carbon capture and the application of membrane-based processes in power plants and energy-intensive industries. <b>2018</b> , 8,	54
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612	Development of highly-efficient ZIF-8@PDMS/PVDF nanofibrous composite membrane for phenol removal in aqueous-aqueous membrane extractive process. <b>2018</b> , 568, 121-133	29
611	Pharmaceutical and Tissue Engineering Applications of Polyelectrolyte Complexes. <b>2018</b> , 3, 21-31	8
610	Membrane Optimization and Process Condition Investigation for Enhancing the CO <sub>2</sub> Separation From Natural Gas. <b>2018</b> , 469-509	2
609	Mixing Effect of Ligand on Carbon Dioxide Capture Behavior of Zeolitic Imidazolate Framework/Poly(amide-b-ethylene oxide) Mixed Matrix Membranes. <b>2018</b> , 6, 15341-15348	17
608	Mixed Matrix Membranes for CO <sub>2</sub> Separations. <b>2018</b> , 103-153	0
607	Hybrid Membranes for Carbon Dioxide Removal From High-Pressure Natural Gas. <b>2018</b> , 439-467	

606	Hybrid and Inorganic Membranes for CO <sub>2</sub> /H <sub>2</sub> Separation Process. <b>2018</b> , 289-305	1
605	Recent advances in layered double hydroxides (LDHs) as two-dimensional membrane materials for gas and liquid separations. <b>2018</b> , 567, 89-103	67
604	ROMP for Metal-Organic Frameworks: An Efficient Technique toward Robust and High-Separation Performance Membranes. <b>2018</b> , 10, 34640-34645	29
603	Multicomponent metal-organic framework membranes for advanced functional composites. <b>2018</b> , 9, 8842-8849	36
602	Modeling Permeation through Mixed-Matrix Membranes: A Review. <b>2018</b> , 6, 172	29
601	Enabling Fluorinated MOF-Based Membranes for Simultaneous Removal of H <sub>2</sub> S and CO from Natural Gas. <b>2018</b> , 57, 14811-14816	111
600	Enabling Fluorinated MOF-Based Membranes for Simultaneous Removal of H <sub>2</sub> S and CO <sub>2</sub> from Natural Gas. <b>2018</b> , 130, 15027-15032	10
599	Bromomethylated poly(phenylene oxide) (BPPO)-assisted fabrication of UiO-66-NH <sub>2</sub> /BPPO/polyethersulfone mixed matrix membrane for enhanced gas separation. <b>2018</b> , 135, 46759	14
598	Poly(1-trimethylsilyl-1-propyne)-Based Hybrid Membranes: Effects of Various Nanofillers and Feed Gas Humidity on CO <sub>2</sub> Permeation. <b>2018</b> , 8,	15
597	Metal Oxide based Antibacterial Membrane. <b>2018</b> , 395, 012021	6
596	Zeolite Mixed Matrix Membranes (Zeolite-MMMs) for Sustainable Engineering. <b>2018</b> ,	4
595	A vertically channeled lamellar membrane for molecular sieving of water from organic solvents. <b>2018</b> , 6, 18095-18102	10
594	Structure design and applications of dual-layer polymeric membranes. <b>2018</b> , 562, 85-111	68
593	Modeling Amorphous Microporous Polymers for CO Capture and Separations. <b>2018</b> , 118, 5488-5538	134
592	MOF Scaffold for a High-Performance Mixed-Matrix Membrane. <b>2018</b> , 57, 8597-8602	37
591	Surface Modification of As-Prepared Silver-Coated Silica Microspheres through Mussel-Inspired Functionalization and Its Application Properties in Silicone Rubber. <b>2018</b> , 57, 7486-7494	11
590	Engineering of thermo-/pH-responsive membranes with enhanced gating coefficients, reversible behaviors and self-cleaning performance through acetic acid boosted microgel assembly. <b>2018</b> , 6, 11874-11883 <sup>23</sup>	
589	Metal-organic framework-based mixed matrix membranes: Synergetic effect of adsorption and diffusion for CO <sub>2</sub> /CH <sub>4</sub> separation. <b>2018</b> , 562, 76-84	57

588	Influence of casting solvents on sedimentation and performance in metalorganic framework mixed-matrix membranes. <b>2018</b> , 89, 224-233		7
587	MOF Scaffold for a High-Performance Mixed-Matrix Membrane. <b>2018</b> , 130, 8733-8738		16
586	Layer-by-layer assembly of carbide derived carbon-polyamide membrane for CO <sub>2</sub> separation from natural gas. <b>2018</b> , 157, 188-199		16
585	Comparison of hollow fiber and flat mixed-matrix membranes: Theory and simulation. <b>2018</b> , 187, 174-188		8
584	Polyetherimide-montmorillonite mixed matrix hollow fibre membranes: Effect of inorganic/organic montmorillonite on CO <sub>2</sub> /CH <sub>4</sub> separation. <i>Separation and Purification Technology</i> , <b>2018</b> , 206, 256-267	8.3	22
583	Activation Entropy for Diffusion of Gases Through Mixed Matrix Membranes. <b>2018</b> , 547-572		1
582	Highly Compatible Hydroxyl-Functionalized Microporous Polyimide-ZIF-8 Mixed Matrix Membranes for Energy Efficient Propylene/Propane Separation. <b>2018</b> , 1, 3541-3547		57
581	Water/salt transport properties of organic/inorganic hybrid films based on cellulose triacetate. <b>2018</b> , 563, 571-583		9
580	Investigation of a new co-polyimide, 6FDA-bisP and its ZIF-8 mixed matrix membranes for CO <sub>2</sub> /CH <sub>4</sub> separation. <i>Separation and Purification Technology</i> , <b>2018</b> , 207, 523-534	8.3	40
579	Synthesis of High-Performance Pebax <sup>®</sup> -1074/DD3R Mixed-Matrix Membranes for CO <sub>2</sub> /CH <sub>4</sub> Separation. <b>2018</b> , 41, 1767-1775		12
578	Carbon-Based Nanocomposite Membrane for Acidic Gas Separation. <b>2018</b> , 233-260		1
577	Recent progress in ionic liquid membranes for gas separation. <b>2018</b> , 266, 330-341		96
576	Bioinspired dual stimuli-responsive membranes with enhanced gating ratios and reversible performances for water gating. <b>2018</b> , 564, 53-61		21
575	Modeling of Gas Permeation through Mixed-Matrix Membranes Using Novel Computer Application MOT. <b>2018</b> , 8, 1166		19
574	Advanced Porous Materials in Mixed Matrix Membranes. <b>2018</b> , 30, e1802401		141
573	The nitrogen-doped porous carbons/PIM mixed-matrix membranes for CO <sub>2</sub> separation. <b>2018</b> , 564, 800-805		18
572	Porous organic polymer as fillers for fabrication of defect-free PIM-1 based mixed matrix membranes with facilitating CO <sub>2</sub> -transfer chain. <b>2018</b> , 564, 115-122		22
571	High-Performance Thin-Film-Nanocomposite Cation Exchange Membranes Containing Hydrophobic Zeolitic Imidazolate Framework for Monovalent Selectivity. <b>2018</b> , 8, 759		6

570	Role of Amine Type in CO <sub>2</sub> Separation Performance within Amine Functionalized Silica/Organosilica Membranes: A Review. <b>2018</b> , 8, 1032	26
569	Enhancing CO <sub>2</sub> /CH <sub>4</sub> separation performance and mechanical strength of mixed-matrix membrane via combined use of graphene oxide and ZIF-8. <b>2018</b> , 67, 156-163	48
568	Inorganic Membranes: Preparation and Application for Water Treatment and Desalination. <b>2018</b> , 11,	115
567	Progress on Incorporating Zeolites in Matrimid5218 Mixed Matrix Membranes towards Gas Separation. <b>2018</b> , 8,	37
566	Estimating CO <sub>2</sub> /N <sub>2</sub> Permeability through Si/Al = 5 Small-Pore Zeolites/PTMSP Mixed Matrix Membranes: Influence of Temperature and Topology. <b>2018</b> , 8,	4
565	Development and Characterization of Defect-Free Matrimid Mixed-Matrix Membranes Containing Activated Carbon Particles for Gas Separation. <b>2018</b> , 10,	32
564	Highly Zeolite-Loaded Polyvinyl Alcohol Composite Membranes for Alkaline Fuel-Cell Electrolytes. <b>2018</b> , 10,	18
563	Highly permeable mixed matrix materials comprising ZIF-8 nanoparticles in rubbery amorphous poly(ethylene oxide) for CO <sub>2</sub> capture. <i>Separation and Purification Technology</i> , <b>2018</b> , 205, 58-65	8.3 45
562	Hybrid Gas Separation Membranes Containing Star-Shaped Polystyrene with the Fullerene (C <sub>60</sub> ) Core. <b>2018</b> , 58, 296-303	8
561	Intrinsically microporous co-polyimides derived from ortho-substituted Tröger's Base diamine with a pendant tert-butyl-phenyl group and their gas separation performance. <b>2018</b> , 153, 173-182	12
560	Pebax/ionic liquid modified graphene oxide mixed matrix membranes for enhanced CO <sub>2</sub> capture. <b>2018</b> , 565, 370-379	92
559	Harnessing Filler Materials for Enhancing Biogas Separation Membranes. <b>2018</b> , 118, 8655-8769	154
558	Block copolymer membranes with catecholic bolaamphiphile assemblies. <b>2018</b> , 566, 35-43	2
557	Optimization study of polyethylene glycol and solvent system for gas permeation membranes. <b>2018</b> , 23, 483-492	8
556	Zeolite-like MOF nanocrystals incorporated 6FDA-polyimide mixed-matrix membranes for CO <sub>2</sub> /CH <sub>4</sub> separation. <b>2018</b> , 565, 186-193	44
555	Synthesis of ZIF-93/11 Hybrid Nanoparticles via Post-Synthetic Modification of ZIF-93 and Their Use for H <sub>2</sub> /CO Separation. <b>2018</b> , 24, 11211-11219	17
554	Recent advances on mixed-matrix membranes for gas separation: Opportunities and engineering challenges. <b>2018</b> , 35, 1577-1600	70
553	Mixed Matrix Membranes Based on Metal-Organic Frameworks with Tunable Pore Size for CO <sub>2</sub> Separation. <b>2018</b> , 18, 4365-4371	18

552	Enhanced CO <sub>2</sub> /CH <sub>4</sub> separation performance of mixed-matrix membranes through dispersion of sorption-selective MOF nanocrystals. <b>2018</b> , 563, 360-370		59
551	Asymmetric polybenzimidazole membranes with thin selective skin layer containing ZIF-8 for H <sub>2</sub> /CO <sub>2</sub> separation at pre-combustion capture conditions. <b>2018</b> , 563, 427-434		27
550	Improving particle dispersity and CO <sub>2</sub> separation performance of amine-functionalized CAU-1 based mixed matrix membranes with polyethyleneimine-grafting modification. <b>2018</b> , 189, 277-285		27
549	Interface manipulation of CO <sub>2</sub> -philic composite membranes containing designed UiO-66 derivatives towards highly efficient CO <sub>2</sub> capture. <b>2018</b> , 6, 15064-15073		113
548	Mixed matrix membranes incorporated with three-dimensionally ordered mesopore imprinted (3DOM-i) zeolite. <i>Separation and Purification Technology</i> , <b>2019</b> , 210, 29-37	8.3	8
547	Synthesis and fabrication of adsorptive carbon nanoparticles (ACNs)/PDMS mixed matrix membranes for efficient CO <sub>2</sub> /CH <sub>4</sub> and C <sub>3</sub> H <sub>8</sub> /CH <sub>4</sub> separation. <i>Separation and Purification Technology</i> , <b>2019</b> , 209, 503-515	8.3	18
546	Experimental study on graphene-based nanocomposite membrane for hydrogen purification: Effect of temperature and pressure. <b>2019</b> , 330, 16-23		13
545	Fabrication of polyimide and covalent organic frameworks mixed matrix membranes by in situ polymerization for preliminary exploration of CO <sub>2</sub> /CH <sub>4</sub> separation. <b>2019</b> , 31, 671-678		13
544	Metal substituted sulfonated poly(2,6-dimethyl-1,4-phenylene oxide) hybrid membranes with magnetic fillers for gas separation. <i>Separation and Purification Technology</i> , <b>2019</b> , 210, 479-490	8.3	8
543	Mixed matrix membranes comprising of polysulfone and microporous Bio-MOF-1: Preparation and gas separation properties. <i>Separation and Purification Technology</i> , <b>2019</b> , 210, 442-451	8.3	44
542	Designing hybrid materials with multifunctional interfaces for wound dressing, electrocatalysis, and chemical separation. <b>2019</b> , 533, 106-125		10
541	Effect of alumina on the performance and characterization of cross-linked PVA/PEG 600 blended membranes for CO <sub>2</sub> /N <sub>2</sub> separation. <i>Separation and Purification Technology</i> , <b>2019</b> , 210, 627-635	8.3	42
540	Individual factors influencing contractors' risk attitudes among Malaysian construction industries: the moderating role of government policy. <b>2019</b> , 1-20		8
539	Synthesis of Three-Dimensional Graphene-Based Hybrid Materials for Water Purification: A Review. <b>2019</b> , 9,		48
538	Olefin/paraffin separation through membranes: from mechanisms to critical materials. <b>2019</b> , 7, 23489-23511		36
537	Polysulfone mixed matrix hollow fiber membranes using zeolite templated carbon as a performance enhancement filler for gas separation. <b>2019</b> , 150, 274-288		12
536	Gas transport characteristics of fluorinated polystyrene-b-polybutadiene-b-polystyrene (F-SBS). <b>2019</b> , 591, 117296		2
535	Two-Dimensional Covalent Organic Frameworks (COFs) for Membrane Separation: a Mini Review. <b>2019</b> , 58, 15394-15406		64

534	Porous covalent triazine piperazine polymer (CTPP)/PEBAX mixed matrix membranes for CO <sub>2</sub> /N <sub>2</sub> and CO <sub>2</sub> /CH <sub>4</sub> separations. <b>2019</b> , 591, 117348	40
533	G-CNTs/PVDF mixed matrix membranes with improved antifouling properties and filtration performance. <b>2019</b> , 13, 1	19
532	Polyvinylamine/graphene oxide/PANI@CNTs mixed matrix composite membranes with enhanced CO <sub>2</sub> /N <sub>2</sub> separation performance. <b>2019</b> , 589, 117246	32
531	Liquid-like CNT/SiO <sub>2</sub> nanoparticle organic hybrid materials as fillers in mixed matrix composite membranes for enhanced CO <sub>2</sub> -selective separation. <b>2019</b> , 43, 11949-11958	19
530	Transport Mechanism and Modeling of Microporous Carbon Membranes. <b>2019</b> , 39-58	1
529	Preparation of polybenzoxazole/silica hybrid membranes for CO <sub>2</sub> /CH <sub>4</sub> separation. <b>2019</b> , 51, 1037-1044	6
528	Adsorption, permeation, and DFT studies of PVC/PVIm blends for separation of CO <sub>2</sub> /CH <sub>4</sub> . <b>2019</b> , 292, 111410	11
527	Aminosilane cross-linked poly ether-block-amide PEBAX 2533: Characterization and CO <sub>2</sub> separation properties. <b>2019</b> , 36, 1339-1349	20
526	Ceramic-Supported Polyhedral Oligomeric Silsesquioxane/Organosilica Nanocomposite Membrane for Efficient Gas Separation. <b>2019</b> , 58, 21708-21716	5
525	The synergistic effect of graphene oxide and POSS in mixed matrix membranes for desalination. <b>2019</b> , 472, 114131	8
524	Enhancing the CO <sub>2</sub> separation performance of polymer membranes via the incorporation of amine-functionalized HKUST-1 nanocrystals. <b>2019</b> , 290, 109680	28
523	Surface modification effect of carbon molecular sieve (CMS) on the morphology and separation performance of mixed matrix membranes. <b>2019</b> , 80, 106152	7
522	. <b>2019</b> ,	5
521	The Ultrafast and Continuous Fabrication of a Polydimethylsiloxane Membrane by Ultraviolet-Induced Polymerization. <b>2019</b> , 131, 17335-17339	3
520	Mass Transport through Composite Asymmetric Membranes. <b>2019</b> , 23, 151-172	
519	Fabrication of Mixed Matrix Membrane Polysulfone - Zeolite Carbon Composites (ZCC) For Gas Separation. <b>2019</b> , 546, 042020	0
518	Progress in the synthesis, properties and applications of ZIF-7 and its derivatives. <b>2019</b> , 14, 100357	10
517	Synthesis and Characterization of Covalent Triazine Framework CTF-1@Polysulfone Mixed Matrix Membranes and Their Gas Separation Studies. <b>2019</b> , 7, 693	13

516	Mixed Matrix Membranes. <b>2019</b> , 161-194	
515	The Ultrafast and Continuous Fabrication of a Polydimethylsiloxane Membrane by Ultraviolet-Induced Polymerization. <b>2019</b> , 58, 17175-17179	31
514	Recent Developments and Applications of Ionic Liquids in Gas Separation Membranes. <b>2019</b> , 42, 2580-2593	22
513	Various Techniques for Preparation of Thin-Film Composite Mixed-Matrix Membranes for CO <sub>2</sub> Separation. <b>2019</b> , 42, 2608-2620	5
512	Promising Performance for Efficient CO <sub>2</sub> Separation with the p-tert-Butylcalix[4]arene/Pebax-1657 Mixed Matrix Membrane. <b>2019</b> , 7, 19015-19026	8
511	Enhanced CO Capture and Hydrogen Purification by Hydroxy Metal-Organic Framework/Polyimide Mixed Matrix Membranes. <b>2019</b> , 12, 4405-4411	16
510	Preparation and Permeation Properties of PESU-Based Mixed Matrix Membranes with Nano-Sized CHA Zeolites. <b>2019</b> , 52, 514-520	6
509	A monolithic graphitic carbon nitride/polyethersulfone nanocomposite: an application of a mixed matrix membrane as a solid-phase microextraction fiber. <b>2019</b> , 186, 679	3
508	High Performance of PIM-1/ZIF-8 Composite Membranes for O <sub>2</sub> /N <sub>2</sub> Separation. <b>2019</b> , 4, 16572-16577	11
507	Synthesis, Transfer, and Gas Separation Characteristics of MOF-Templated Polymer Membranes. <b>2019</b> , 9,	8
506	Preparation and characterization of PVDF/CaCO <sub>3</sub> composite membranes etched by hydrochloric acid. <b>2019</b> , 26, 33607-33620	4
505	Bipyridine-based UiO-67 as novel filler in mixed-matrix membranes for CO <sub>2</sub> -selective gas separation. <b>2019</b> , 576, 78-87	56
504	Nanosheets of MIL-53(Al) applied in membranes with improved CO <sub>2</sub> /N <sub>2</sub> and CO <sub>2</sub> /CH <sub>4</sub> selectivities. <b>2019</b> , 48, 3392-3403	17
503	Dynamic mechanical properties of zinc oxide reinforced linear low density polyethylene composites. <b>2019</b> , 6, 055301	14
502	Highly efficient CO <sub>2</sub> capture by mixed matrix membranes containing three-dimensional covalent organic framework fillers. <b>2019</b> , 7, 4549-4560	51
501	Tailoring Ultramicroporosity To Maximize CO <sub>2</sub> Transport within Pyrimidine-Bridged Organosilica Membranes. <b>2019</b> , 11, 7164-7173	18
500	Polysulfone-highly uniform activated carbon sphere mixed-matrix membrane intended for efficient purification of dye wastewater. <b>2019</b> , 6, 055313	1
499	Comparison of porous and nonporous filler effect on performance of poly (ether-block-amide) mixed matrix membranes for gas separation applications. <b>2019</b> , 147, 545-560	25

498	An adjustable permeation membrane up to the separation for multicomponent gas mixture. <b>2019</b> , 9, 7380		8
497	Interface engineering of mixed matrix membrane via CO <sub>2</sub> -philic polymer brush functionalized graphene oxide nanosheets for efficient gas separation. <b>2019</b> , 586, 23-33		25
496	Zeolite Membranes. <b>2019</b> , 195-223		
495	Mixed-matrix membranes based on 6FDA-ODA polyimide and silicalite-1 with homogeneous spatial distribution of particles. <b>2019</b> , 178, 121576		1
494	SIFSIX-3-Zn/PIM-1 mixed matrix membranes with enhanced permeability for propylene/propane separation. <b>2019</b> , 588, 117201		25
493	Modification of membrane hydrophobicity in membrane contactors for environmental remediation. <i>Separation and Purification Technology</i> , <b>2019</b> , 227, 115721	8.3	11
492	The Role of Interfacial Morphology in the Gas Transport Behavior of Nanocomposite Membranes: A Mathematical Modeling Approach. <b>2019</b> , 58, 11022-11037		13
491	Low band-gap energy photocatalytic membrane based on SrTiO <sub>3</sub> /r and PVDF substrate: BSA protein degradation and separation application. <b>2019</b> , 586, 326-337		14
490	Permeability behavior of polyvinyl chloride-ionic liquid ionomer for CO <sub>2</sub> /CH <sub>4</sub> separation. <i>Separation and Purification Technology</i> , <b>2019</b> , 226, 138-145	8.3	9
489	Thermo- and pH-responsive graphene oxide membranes with tunable nanochannels for water gating and permeability of small molecules. <b>2019</b> , 587, 117163		28
488	An Atomistic Simulation Study on POC/PIM Mixed-Matrix Membranes for Gas Separation. <b>2019</b> , 123, 15113-15121		4
487	Hydrogen-Bonded Polyimide/Metal-Organic Framework Hybrid Membranes for Ultrafast Separations of Multiple Gas Pairs. <b>2019</b> , 29, 1903243		49
486	110th Anniversary: Selection of Cross-Linkers and Cross-Linking Procedures for the Fabrication of Solvent-Resistant Nanofiltration Membranes: A Review. <b>2019</b> , 58, 10678-10691		35
485	Capillary condensation mechanism for gas transport in fiber reinforced poly (ether-b-amide) membranes. <b>2019</b> , 148, 180-190		5
484	New Synthetic Methods of Novel Nanoporous Polycondensates and Excellent Oxygen Permselectivity of Their Composite Membranes. <b>2019</b> , 9,		3
483	CO-philic moderate selective layer mixed matrix membranes containing surface functionalized NaX towards highly-efficient CO capture.. <b>2019</b> , 9, 15542-15553		16
482	An insight into the effect of azobenzene functionalities studied in UiO-66 frameworks for low energy CO <sub>2</sub> capture and CO <sub>2</sub> /N <sub>2</sub> membrane separation. <b>2019</b> , 7, 15164-15172		20
481	Ultra-low graphene oxide loading for water permeability, antifouling and antibacterial improvement of polyethersulfone/sulfonated polysulfone ultrafiltration membranes. <b>2019</b> , 552, 319-331		56

480	Prospects of Membrane Science Development. <b>2019</b> , 1, 45-63		80
479	Predicting CO <sub>2</sub> Permeation through an Enhanced Ionic Liquid Mixed Matrix Membrane (IL3M). <b>2019</b> , 2019, 1-10		7
478	Membrane-based liquid desiccant air dehumidification: A comprehensive review on materials, components, systems and performances. <b>2019</b> , 110, 444-466		50
477	A new permeation model in porous filler-based mixed matrix membranes for CO <sub>2</sub> separation. <b>2019</b> , 9, 719-742		7
476	Polymer engineering by blending PIM-1 and 6FDA-DAM for ZIF-8 containing mixed matrix membranes applied to CO <sub>2</sub> separations. <i>Separation and Purification Technology</i> , <b>2019</b> , 224, 456-462	8.3	17
475	Incorporation of Cu <sub>3</sub> BTC <sub>2</sub> nanocrystals to increase the permeability of polymeric membranes in O <sub>2</sub> /N <sub>2</sub> separation. <b>2019</b> , 1,		14
474	Incorporation of CoIII acetylacetonate and SNW-1 nanoparticles to tailor O <sub>2</sub> /N <sub>2</sub> separation performance of mixed-matrix membrane. <i>Separation and Purification Technology</i> , <b>2019</b> , 223, 133-141	8.3	30
473	Mixed matrix membranes with a thermally rearranged polymer and ZIF-8 for hydrogen separation. <b>2019</b> , 582, 381-390		44
472	Interfacial Property Modulation of PIM-1 through Polydopamine-Derived Submicrospheres for Enhanced CO/N Separation Performance. <b>2019</b> , 11, 19613-19622		20
471	Membranes utilization for biogas upgrading to synthetic natural gas. <b>2019</b> , 245-274		2
470	Polyethersulfone fiber. <b>2019</b> , 245-288		1
469	110th Anniversary: Mixed Matrix Membranes with Fillers of Intrinsic Nanopores for Gas Separation. <b>2019</b> , 58, 7706-7724		27
468	Fabricating a pH-responsive membrane through interfacial in-situ assembly of microgels for water gating and self-cleaning. <b>2019</b> , 579, 230-239		27
467	In situ formation of zeolitic-imidazolate framework thin films and composites using modified polymer substrates. <b>2019</b> , 7, 9680-9689		28
466	Anisotropic membrane materials for gas separations. <b>2019</b> , 65, e16599		1
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464	Carbon nanotubes and graphene oxide-based solvent-free hybrid nanofluids functionalized mixed-matrix membranes for efficient CO <sub>2</sub> /N <sub>2</sub> separation. <i>Separation and Purification Technology</i> , <b>2019</b> , 221, 421-432	8.3	29
463	Liquid- and Gas-Phase Separation in MOFs. <b>2019</b> , 365-393		2

462	Tailoring the molecular sieving properties and thermal stability of carbonized membranes containing polyhedral oligomeric silsesquioxane (POSS)-polyimide via the introduction of norbornene. <b>2019</b> , 582, 59-69		8
461	Enhancing plasticization-resistance of mixed-matrix membranes with exceptionally high CO <sub>2</sub> /CH <sub>4</sub> selectivity through incorporating ZSM-25 zeolite. <b>2019</b> , 583, 23-30		30
460	Separation of organic compounds from gaseous mixtures by vapor permeation. <i>Separation and Purification Technology</i> , <b>2019</b> , 217, 95-107	8.3	15
459	Improved desulfurization performance of polydimethylsiloxane membrane by incorporating metal organic framework CPO-27-Ni. <i>Separation and Purification Technology</i> , <b>2019</b> , 217, 86-94	8.3	16
458	Simulation of multicomponent gas transport through mixed-matrix membranes. <b>2019</b> , 577, 219-234		4
457	Enhanced CO <sub>2</sub> /CH <sub>4</sub> selectivity and mechanical strength of mixed-matrix membrane incorporated with NiDOBDC/GO composite. <b>2019</b> , 74, 118-125		26
456	Metal-organic framework based membranes for gas separation. <b>2019</b> , 203-226		2
455	Mixed-matrix membranes for CO <sub>2</sub> separation: role of the third component. <b>2019</b> , 7, 24738-24759		52
454	Deep-Permeation Nanocomposite Structure of ZIF-8 inside Porous Poly(tetrafluoroethylene) by Flow Synergistic Synthesis. <b>2019</b> , 58, 23083-23092		7
453	A Bibliometric Survey of Paraffin/Olefin Separation Using Membranes. <b>2019</b> , 9,		9
452	A preferential CO <sub>2</sub> separation using binary phases membrane consisting of Pebax <sup>®</sup> 1657 and [Omim][PF <sub>6</sub> ] ionic liquid. <b>2019</b> , 36, 2085-2094		11
451	Tailoring CO/CH Separation Performance of Mixed Matrix Membranes by Using ZIF-8 Particles Functionalized with Different Amine Groups. <b>2019</b> , 11,		11
450	Pervaporation and Vapor Separation. <b>2019</b> , 181-231		
449	Mechanical Properties of a Metal-Organic Framework formed by Covalent Cross-Linking of Metal-Organic Polyhedra. <b>2019</b> , 141, 1045-1053		59
448	Synthesis of novel regenerable 13X zeolite-polyimide adsorbent foams. <b>2019</b> , 361, 736-750		13
447	Nanocomposite membranes for water separation and purification: Fabrication, modification, and applications. <i>Separation and Purification Technology</i> , <b>2019</b> , 213, 465-499	8.3	217
446	Molecularly Mixed Composite Membranes for Advanced Separation Processes. <b>2019</b> , 58, 2638-2643		37
445	Molecularly Mixed Composite Membranes for Advanced Separation Processes. <b>2019</b> , 131, 2664-2669		17

444	High nanoparticles loadings mixed matrix membranes via chemical bridging-crosslinking for CO <sub>2</sub> separation. <b>2019</b> , 573, 455-464	51
443	Membrane Separation in Organic Liquid: Technologies, Achievements, and Opportunities. <b>2019</b> , 31, e1806090	78
442	Mixed matrix polymeric and carbon hollow fiber membranes with magnetic iron-based nanoparticles and their application in gas mixture separation. <b>2019</b> , 223, 220-229	18
441	Mixed matrix membranes incorporated with reduced graphene oxide (rGO) and zeolitic imidazole framework-8 (ZIF-8) nanofillers for gas separation. <b>2019</b> , 270, 419-427	41
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439	Critical review of montmorillonite/polymer mixed-matrix filtration membranes: Possibilities and challenges. <i>Applied Clay Science</i> , <b>2019</b> , 168, 21-30	5-2 37
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437	Covalent organic frameworks (COFs) functionalized mixed matrix membrane for effective CO <sub>2</sub> /N <sub>2</sub> separation. <b>2019</b> , 572, 588-595	96
436	Substantial breakthroughs on function-led design of advanced materials used in mixed matrix membranes (MMMs): A new horizon for efficient CO <sub>2</sub> separation. <b>2019</b> , 102, 222-295	115
435	Mussel-inspired zwitterionic dopamine nanoparticles as building blocks for constructing salt selective nanocomposite membranes. <b>2019</b> , 572, 140-151	46
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432	Tuning mechanical reinforcement and bioactivity of 3D printed ternary nanocomposites by interfacial peptide-polymer conjugates. <b>2019</b> , 11, 035028	14
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430	Collegial effect of carbonaceous hybrid fillers in mixed matrix membrane development. <b>2019</b> , 135, 8-15	6
429	Polyimide-TiO <sub>2</sub> nanocomposites and their corresponding membranes: Synthesis, characterization, and gas separation applications. <b>2019</b> , 89, 25-36	11
428	Improved CO <sub>2</sub> separation performance of composite membrane with the aids of low-temperature plasma treatment. <b>2019</b> , 570-571, 184-193	10
427	Improvement on physical properties of polyethersulfone membranes modified by poly(1-vinylpyrrolidone) grafted magnetic Fe <sub>3</sub> O <sub>4</sub> @SiO <sub>2</sub> nanoparticles. <b>2019</b> , 33, e4639	5

426	Recent progress on fabrication methods of polymeric thin film gas separation membranes for CO <sub>2</sub> capture. <b>2019</b> , 572, 38-60		115
425	Nanoporous framework "reservoir" maximizing low-molecular-weight enhancer impregnation into CO <sub>2</sub> -philic membranes for highly-efficient CO <sub>2</sub> capture. <b>2019</b> , 570-571, 278-285		48
424	Mixed matrix membranes comprising aminosilane-functionalized graphene oxide for enhanced CO <sub>2</sub> separation. <b>2019</b> , 570-571, 343-354		112
423	Crosslinked P84 copolyimide/MXene mixed matrix membrane with excellent solvent resistance and permselectivity. <b>2019</b> , 27, 877-883		26
422	Enhancing gas permeation and separation performance of polymeric membrane by incorporating hollow polyamide nanoparticles with dense shell. <b>2019</b> , 570-571, 53-60		16
421	Nylon/MOF Composites through Postsynthetic Polymerization. <b>2019</b> , 131, 2358-2362		17
420	Reduced thermal rearrangement temperature via formation of zeolitic imidazolate framework (ZIF)-8-based nanocomposites for hydrogen purification. <i>Separation and Purification Technology</i> , <b>2019</b> , 212, 965-973	8.3	19
419	Nylon-MOF Composites through Postsynthetic Polymerization. <b>2019</b> , 58, 2336-2340		90
418	Tröger's base mixed matrix membranes for gas separation incorporating NH <sub>2</sub> -MIL-53(Al) nanocrystals. <b>2019</b> , 573, 359-369		30
417	ZIF-8 particle size effects on reverse osmosis performance of polyamide thin-film nanocomposite membranes: Importance of particle deposition. <b>2019</b> , 570-571, 23-33		83
416	Solvent-free transformation of spray coated ZnO layers to ZIF-8 membranes. <b>2019</b> , 276, 29-40		11
415	Methoxy poly (ethylene glycol) methacrylate-TiO <sub>2</sub> /poly (methyl methacrylate) nanocomposite: an efficient membrane for gas separation. <b>2019</b> , 58, 789-802		3
414	Mixed-matrix hollow fiber composite membranes comprising of PEBA and MOF for pervaporation separation of ethanol/water mixtures. <i>Separation and Purification Technology</i> , <b>2019</b> , 214, 2-10	8.3	32
413	Optimization of the gas separation performance of polyurethane/zeolite 3A and ZSM-5 mixed matrix membranes using response surface methodology. <b>2019</b> , 27, 110-129		12
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411	Nanocomposite membranes for organic solvent nanofiltration. <b>2020</b> , 49, 177-206		17
410	The Role of Fluorinated Aryl Ether Moiety in Polyimide-co-etherimide on Gas Transport Properties. <b>2020</b> , 59, 5315-5323		9
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404	Thermally rearranged (TR) HAB-6FDA nanocomposite membranes for hydrogen separation. <b>2020</b> , 45, 18685-18692	10
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402	Locking of phase transition in MOF ZIF-7: improved selectivity in mixed-matrix membranes for O <sub>2</sub> /N <sub>2</sub> separation. <b>2020</b> , 7, 223-228	8
401	Hydrothermal stable ZIF-67 nanosheets via morphology regulation strategy to construct mixed-matrix membrane for gas separation. <b>2020</b> , 593, 117404	42
400	Membranes for CO <sub>2</sub> /CH <sub>4</sub> and CO <sub>2</sub> /N <sub>2</sub> Gas Separation. <b>2020</b> , 43, 184-199	29
399	Permeation and sorption properties of CO <sub>2</sub> -selective blend membranes based on polyvinyl alcohol (PVA) and 1-ethyl-3-methylimidazolium dicyanamide ([EMIM][DCA]) ionic liquid for effective CO <sub>2</sub> /H <sub>2</sub> separation. <b>2020</b> , 597, 117623	22
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