

CITATION REPORT

List of articles citing

Membrane Gas Separation: A Review/State of the Art

DOI: 10.1021/ie8019032

Industrial & Engineering Chemistry Research,
2009, 48, 4638-4663.

Source: <https://exaly.com/paper-pdf/46784586/citation-report.pdf>

Version: 2024-04-20

This report has been generated based on the citations recorded by exaly.com for the above article. For the latest version of this publication list, visit the link given above.

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

#	Paper	IF	Citations
1671	Ceramic Membranes for the Separation of Carbon Dioxide: A Review. 2009 , 68, 115-138		12
1670	Transport and separation properties of carbon nanotube-mixed matrix membrane. 2009 , 70, 12-26		275
1669	Surface-Tethered pH-Responsive Hydrogel Thin Films as Size-Selective Layers on Nanoporous Asymmetric Membranes. 2009 , 21, 4323-4331		34
1668	Membrane gas separation progresses for process intensification strategy in the petrochemical industry. 2010 , 50, 271-282		91
1667	Highly permeable polymer materials based on silicon-substituted norbornenes. 2010 , 50, 352-361		28
1666	Membrane technologies for CO ₂ separation. 2010 , 359, 115-125		630
1665	Spiro-biindane containing fluorinated poly(ether imide)s: Synthesis, characterization and gas separation properties. 2010 , 365, 329-340		39
1664	Catalytic Generation of Hydrogen from Formic acid and its Derivatives: Useful Hydrogen Storage Materials. 2010 , 53, 902-914		347
1663	Next-generation biofuels: Survey of emerging technologies and sustainability issues. 2010 , 3, 1106-33		236
1662	Multilayer Amorphous-Si-B-C-N/Al ₂ O ₃ /Al ₂ O ₃ Membranes for Hydrogen Purification. 2010 , 12, 522-528		29
1661	Untersuchungen zum Hochdruck-Permeationsverhalten reiner Gase durch mikroporöse keramische Membranen Teil 2. Analyse der Stofftransportmechanismen. 2010 , 82, 1729-1736		1
1660	Dipeptide Crystals as Excellent Permselective Materials: Sequential Exclusion of Argon, Nitrogen, and Oxygen. 2010 , 122, 3098-3100		10
1659	Dipeptide crystals as excellent permselective materials: sequential exclusion of argon, nitrogen, and oxygen. 2010 , 49, 3034-6		53
1658	Integrating purifiers in refinery hydrogen networks: a retrofit case study. 2010 , 18, 233-241		102
1657	Preparation and characterization of semi-crystalline poly(ether ether ketone) hollow fiber membranes. 2010 , 357, 192-198		15
1656	A vapor-phase surface modification method to enhance different types of hollow fiber membranes for industrial scale hydrogen separation. 2010 , 35, 8970-8982		35
1655	Preparation of aluminophosphate/polyethylene nanocomposite membranes and their gas permeation properties. 2010 , 358, 33-42		19

1654	Preparation and dehumidification performance of composite membrane with PVA/gelatin/silica hybrid skin layer. 2010 , 363, 316-325		34
1653	Design of membrane cascades for gas separation. 2010 , 364, 263-277		31
1652	Membrane Engineering: Progress and Potentialities in Gas Separations. 2010 , 279-312		7
1651	PREPARATION AND CHARACTERISTICS OF FUNCTIONALIZED MULTIWALLED CARBON NANOTUBES IN POLYIMIDE MIXED MATRIX MEMBRANE. 2010 , 05, 195-202		5
1650	Highly permeable polymers for gas separation membranes. 2010 , 1, 63		279
1649	Membrane Technology: Latest Applications in the Refinery and Petrochemical Field. 2010 , 211-239		10
1648	Novel Aromatic Polyimides Derived from 5?-t-Butyl-2?-pivaloylimino-3,4,3??,4??-m-terphenyltetracarboxylic Dianhydride with Potential Application on Gas Separation Processes. 2010 , 43, 2268-2275		50
1647	Properties and transport behavior of perfluorotripentylamine (FC-70)-doped amorphous teflon AF 2400 films. 2010 , 132, 17867-79		18
1646	Vacancy Diffusion with Time-Dependent Length Scale: An Insightful New Model for Physical Aging in Polymers. <i>Industrial & Engineering Chemistry Research</i> , 2010 , 49, 12119-12124	3.9	28
1645	Polymers of intrinsic microporosity for gas permeation: a molecular simulation study. 2010 , 36, 992-1003		40
1644	Removal of Acid gases from Natural Gas Streams by Membrane Technology. 2010 , 139-144		2
1643	Grafting thermally labile molecules on cross-linkable polyimide to design membrane materials for natural gas purification and CO ₂ capture. 2011 , 4, 201-208		114
1642	Conceptual design and analysis of ITM oxy-combustion power cycles. 2011 , 13, 21351-61		17
1641	Nanoporous Crystalline Phases of Poly(2,6-Dimethyl-1,4-phenylene)oxide. 2011 , 23, 3195-3200		66
1640	Composite Catalytic-Permselective Membranes: A Strategy for Enhancing Selectivity and Permeation Rates via Reaction and Diffusion. <i>Industrial & Engineering Chemistry Research</i> , 2011 , 50, 10185-10193	3.9	5
1639	Effects of Residual Solvent on Membrane Structure and Gas Permeation in a Polymer of Intrinsic Microporosity: Insight from Atomistic Simulation. 2011 , 115, 11233-11239		28
1638	Foam films as thin liquid gas separation membranes. 2011 , 3, 633-7		26
1637	Hybrid Membrane-Cryogenic Distillation Air Separation Process for Oxygen Production. 2011 , 46, 1539-1545		11

1636	Opportunities for MOFs in CO ₂ Capture from Flue Gases, Natural Gas, and Syngas by Adsorption. 2011 , 99-119	9
1635	Modified Mesoporous Silica Gas Separation Membranes on Polymeric Hollow Fibers. 2011 , 23, 3025-3028	75
1634	Graphdiyne: a versatile nanomaterial for electronics and hydrogen purification. 2011 , 47, 11843-5	289
1633	Poly-/metal-benzimidazole nano-composite membranes for hydrogen purification. 2011 , 4, 4171	260
1632	Process Intensification, 4. Plant Level. 2011 ,	1
1631	Separation of Hydrogen and Nitrogen Gases with Porous Graphene Membrane. 2011 , 115, 23261-23266	298
1630	A review of water treatment membrane nanotechnologies. 2011 , 4, 1946	1421
1629	Gas permeation models in mixed matrix membranes. 2011 ,	1
1628	Polymer of Intrinsic Microporosity Incorporating Thioamide Functionality: Preparation and Gas Transport Properties. 2011 , 44, 6471-6479	189
1627	Sharp separation of C ₂ /C ₃ hydrocarbon mixtures by zeolitic imidazolate framework-8 (ZIF-8) membranes synthesized in aqueous solutions. 2011 , 47, 10275-7	273
1626	Chapter 8:Commercial Applications of Membranes in Gas Separations. 2011 , 215-244	4
1625	Biogas potential on Long Island, New York: A quantification study. 2011 , 3, 043118	5
1624	Structural characterization and porosity analysis in self-supported porous alumina-silica thin films. 2011 , 520, 30-34	6
1623	Modeling molecular transport in composite membranes with tubular fillers. 2011 , 381, 50-63	46
1622	Effect of zeolitic imidazolate frameworks on the gas transport performance of ZIF8-poly(1,4-phenylene ether-ether-sulfone) hybrid membranes. 2011 , 383, 206-213	101
1621	Ion transport membrane reactors for oxy-combustion [Part I: intermediate-fidelity modeling. 2011 , 36, 4701-4720	56
1620	CO ₂ removal from natural gas by employing amine absorption and membrane technology: technical and economical analysis. 2011 , 172, 952-960	175
1619	Analysis of the Development of Membrane Technology for Gas Separation and CO ₂ Capture. 2011 , 7-26	6

1618	Increase in gas separation selectivity during physical aging of OH-containing polyimide. 2011 , 51, 514-518	3
1617	Multifunctional thiols as additives in UV-cured PEG-diacrylate membranes for CO ₂ separation. 2011 , 369, 429-436	38
1616	Sodium alginate-gelatin polyelectrolyte complex membranes with both high water vapor permeance and high permselectivity. 2011 , 375, 304-312	56
1615	Crosslinkable mixed matrix membranes with surface modified molecular sieves for natural gas purification: I. Preparation and experimental results. 2011 , 377, 75-81	45
1614	Plasma-enhanced atomic layer deposition of titania on alumina for its potential use as a hydrogen-selective membrane. 2011 , 378, 438-443	11
1613	Dynamic simulation of multicomponent gas separation by hollow-fiber membrane module: Nonideal mixing flows in permeate and residue sides using the tanks-in-series model. 2011 , 76, 362-372	50
1612	Synthesis and Gas Permeation Properties of Spirobischromane-Based Polymers of Intrinsic Microporosity. 2011 , 212, 1137-1146	95
1611	Tailoring the Separation Behavior of Hybrid Organosilica Membranes by Adjusting the Structure of the Organic Bridging Group. 2011 , 21, 2319-2329	142
1610	Poly(vinyl trimethylsilane) and block copolymers of vinyl trimethylsilane with isoprene: Anionic polymerization, morphology and gas transport properties. 2011 , 47, 723-729	9
1609	Filtering carbon dioxide through carbon nanotubes. 2011 , 506, 81-85	30
1608	Hydrogen separation performance of CMS membranes derived from the imide-functional group of two similar types of precursors. 2011 , 36, 8645-8657	28
1607	Ammonia-activated mesoporous carbon membranes for gas separations. 2011 , 368, 41-47	56
1606	Study on immobilized liquid membrane using ionic liquid and PVDF hollow fiber as a support for CO ₂ /N ₂ separation. 2011 , 372, 346-354	74
1605	A methodology for the morphological and physicochemical characterisation of asymmetric carbon hollow fiber membranes. 2011 , 375, 113-123	27
1604	The CO ₂ permeability and mixed gas CO ₂ /H ₂ selectivity of membranes composed of CO ₂ -philic polymers. 2011 , 372, 29-39	62
1603	Prediction of the relative permeability of gases in mixed matrix membranes. 2011 , 373, 152-159	83
1602	Mixed gas separation study for the hydrogen recovery from H ₂ /CO/N ₂ /CO ₂ post combustion mixtures using a Matrimid membrane. 2011 , 378, 359-368	104
1601	Hollow silicalite-1 sphere-polymer mixed matrix membranes for gas separation. 2011 , 77, 137-145	89

1600	Characterization of membranes for energy and environmental applications. 2011 , 56-89	2
1599	Carbon Nanotubes Based Mixed Matrix Membrane for Gas Separation. 2011 , 364, 272-277	4
1598	Effects of Curing Method on the Gas Separation Performance of Phenolic Resin/Poly(vinyl Alcohol)-Based Carbon Membrane Materials. 2011 , 675-677, 1185-1188	1
1597	Permeation of Light Gases through Hexagonal Ice. 2012 , 5, 1593-1601	4
1596	Comparison between Treated and Untreated Zeolite towards the Performance of Polyethersulfone Mixed Matrix Membranes (MMMs) for O ₂ /N ₂ Gas Separation. 2012 , 550-553, 728-735	4
1595	Membranes, adsorbent materials and solvent-based materials for syngas and hydrogen separation. 2012 , 179-216	5
1594	Membranes for environmentally friendly energy processes. 2012 , 2, 706-26	90
1593	Polymers of Intrinsic Microporosity. 2012 , 2012, 1-16	135
1592	Novel Membrane-Separation Techniques and Their Environmental Applications. 2012 , 696-726	3
1591	Technology Options and Integration Concepts for Implementing CO ₂ Capture in Oil-Sands Operations. 2012 , 51, 362-375	9
1590	Thin-film microextraction offers another geometry for solid-phase microextraction. 2012 , 39, 245-253	173
1589	Amino acid ionic liquid-based facilitated transport membranes for CO ₂ separation. 2012 , 48, 6903-5	117
1588	Windowed Carbon Nanotubes for Efficient CO ₂ Removal from Natural Gas. 2012 , 3, 3343-3347	57
1587	Carbon dioxide separation with a two-dimensional polymer membrane. 2012 , 4, 3745-52	115
1586	Conventional processes and membrane technology for carbon dioxide removal from natural gas: A review. 2012 , 21, 282-298	120
1585	Self-assembly of graphene oxide and polyelectrolyte complex nanohybrid membranes for nanofiltration and pervaporation. 2012 , 213, 318-329	208
1584	Gas Permeation Properties of 1-Hexyl-3-Methylimidazolium Chloride Supported Liquid Membranes. 2012 , 44, 1114-1116	
1583	Membrane Technology and Environmental Applications. 2012 ,	17

1582	Preparation and Gas Separation Properties of Polyphenylsulfone(PPSF)/Polyetherimide(PEI)/Silica Nanocomposite Membranes. 2012 , 44, 772-773		
1581	Separation of Volatile Organic Compounds from Air by PEBAX□ /Room Temperature Ionic Liquid Gel Membranes. 2012 , 44, 877-879		
1580	Modeling Solubility of CO ₂ and C ₂ H ₆ Mixtures in Crosslinked Poly(ethylene oxide) Copolymers. 2012 , 44, 347-350		1
1579	Composite catalytic-permselective membranes: Modeling analysis for H ₂ purification assisted by water-gas-shift reaction. 2012 , 207-208, 552-563		12
1578	Poly(Vinylidene Fluoride) (PVDF) and Nylon 66 (PA66) Membranes Applied the Process of Gas Separation. 2012 , 44, 1146-1149		2
1577	Physical Ageing Study of Post-Treated Pim-1 Membranes: Effect on Gas Transport Properties. 2012 , 44, 874-876		5
1576	Hybrid Fixed-Site-Barrier Membranes for CO ₂ /CH ₄ Separation. 2012 , 44, 118-119		6
1575	A Multiple-Compartment Ion-Transport-Membrane Reactive Oxygen Separator. <i>Industrial & Engineering Chemistry Research</i> , 2012 , 51, 7988-7997	3.9	10
1574	Determination of carbon dioxide transport coefficients in liquids and polymers by NMR spectroscopy. 2012 , 116, 6050-8		16
1573	Comparison of the Energy Intensity of the Selected CO ₂ -Capture Methods Applied in the Ultra-supercritical Coal Power Plants. 2012 , 26, 6509-6517		34
1572	Mixed matrix membranes of aminosilanes grafted FAU/EMT zeolite and cross-linked polyimide for CO ₂ /CH ₄ separation. 2012 , 53, 3269-3280		77
1571	Nanotechnology for sustainability: what does nanotechnology offer to address complex sustainability problems?. 2012 , 14, 1		26
1570	Multi-objective optimization of coal-fired electricity production with CO ₂ capture. 2012 , 98, 266-272		37
1569	Polybenzimidazole composite membranes for high temperature synthesis gas separations. 2012 , 415-416, 265-270		77
1568	High ionic liquid content polymeric gel membranes: Correlation of membrane structure with gas and vapour transport properties. 2012 , 415-416, 801-809		111
1567	The role of solubility partition coefficient at the mixed matrix interface in the performance of mixed matrix membranes. 2012 , 415-416, 871-877		12
1566	Gas transport properties of hyperbranched polyimide/hydroxy polyimide blend membranes. 2012 , 48, 1504-1512		23
1565	Low-temperature CO ₂ Removal from Natural Gas. 2012 , 26, 41-48		45

1564	Modeling and analysis of selected carbon dioxide capture methods in IGCC systems. 2012 , 45, 92-100	45
1563	A spirobifluorene-based polymer of intrinsic microporosity with improved performance for gas separation. 2012 , 24, 5930-3	249
1562	Infrared linear dichroism as a tool to evaluate volatile guest partition between amorphous and nanoporous-crystalline polymer phases. 2012 , 50, 1474-1479	7
1561	Investigation of cross-linked and additive containing polymer materials for membranes with improved performance in pervaporation and gas separation. 2012 , 2, 727-63	63
1560	Feasibility of zeolitic imidazolate framework membranes for clean energy applications. 2012 , 5, 7637	137
1559	Practical Approach to Zeolitic Membranes and Coatings: State of the Art, Opportunities, Barriers, and Future Perspectives. 2012 , 24, 2829-2844	296
1558	Diffusion of methane and carbon dioxide in carbon molecular sieve membranes by multinuclear pulsed field gradient NMR. 2012 , 28, 10296-303	26
1557	Sorbate Transport in Carbon Molecular Sieve Membranes and FAU/EMT Intergrowth by Diffusion NMR. 2012 , 5, 302-316	3
1556	Separation performance of CO ₂ through Supported Magnetic Ionic Liquid Membranes (SMILMs). 2012 , 97, 26-33	83
1555	Synthesis of ceramic hollow fiber supported zeolitic imidazolate framework-8 (ZIF-8) membranes with high hydrogen permeability. 2012 , 421-422, 292-298	166
1554	CO ₂ Capture with PEG. 2012 , 41-53	2
1553	Formation of Carbon Nanotube Bucky Paper and Feasibility Study for Filtration at the Nano and Molecular Scale. 2012 , 116, 19025-19031	36
1552	Methane-selective nanoporous graphene membranes for gas purification. 2012 , 14, 13292-8	115
1551	Affinity between Metal-Organic Frameworks and Polyimides in Asymmetric Mixed Matrix Membranes for Gas Separations. <i>Industrial & Engineering Chemistry Research</i> , 2012 , 51, 10156-10164 ⁹	74
1550	Highly selective CO ₂ /CH ₄ gas uptake by a halogen-decorated borazine-linked polymer. 2012 , 22, 13524	80
1549	Metal-Organic Framework/Polymer Mixed-Matrix Membranes for H ₂ /CO ₂ Separation: A Fully Atomistic Simulation Study. 2012 , 116, 19268-19277	63
1548	Thermally rearranged (TR) polymer membranes with nanoengineered cavities tuned for CO ₂ separation. 2012 , 265-275	1
1547	Capture and Utilization of Carbon Dioxide with Polyethylene Glycol. 2012 ,	11

1546	Effect of Li Doping on Diffusion and Separation of Hydrogen and Methane in Covalent Organic Frameworks. 2012 , 116, 12591-12598	44
1545	High-Performance Thermally Self-Cross-Linked Polymer of Intrinsic Microporosity (PIM-1) Membranes for Energy Development. 2012 , 45, 1427-1437	186
1544	Inorganic membranes for carbon dioxide and nitrogen separation. 2012 , 28,	44
1543	Natural Gas Purification Technologies - Major Advances for CO ₂ Separation and Future Directions. 2012 ,	37
1542	Polymeric Gas Separation Membranes. 2012 , 45, 3298-3311	537
1541	Synthesis and Gas Transport Properties of Hydroxyl-Functionalized Polyimides with Intrinsic Microporosity. 2012 , 45, 3841-3849	163
1540	Metal-organic framework-based devices: separation and sensors. 2012 , 22, 10094	156
1539	Symmetric and Asymmetric Zeolitic Imidazolate Frameworks (ZIFs)/Polybenzimidazole (PBI) Nanocomposite Membranes for Hydrogen Purification at High Temperatures. 2012 , 2, 1358-1367	120
1538	UV-Rearranged PIM-1 Polymeric Membranes for Advanced Hydrogen Purification and Production. 2012 , 2, 1456-1466	98
1537	Modeling and parametric analysis of hollow fiber membrane system for carbon capture from multicomponent flue gas. 2012 , 58, 1550-1561	26
1536	Technico-economical assessment of MFI-type zeolite membranes for CO ₂ capture from postcombustion flue gases. 2012 , 58, 3183-3194	25
1535	Dynamic layer-by-layer self-assembly of organic-inorganic composite hollow fiber membranes. 2012 , 58, 3176-3182	18
1534	Preparation of silicalite-polyamide composite membranes for desalination. 2012 , 7, 434-441	18
1533	Carbon dioxide utilization with C-N bond formation: carbon dioxide capture and subsequent conversion. 2012 , 5, 6602	400
1532	Membrane materials for addressing energy and environmental challenges. 2012 , 3, 395-420	22
1531	Thermally rearranged (TR) polymer membranes with nanoengineered cavities tuned for CO ₂ separation. 2012 , 14, 1	23
1530	Integrated membrane operations in the ethylene oxide production. 2012 , 14, 475-485	8
1529	Multicomponent gas diffusion in hardened cement paste at temperatures up to 350°C. 2012 , 42, 656-664	8

1528	Environmental and economic evaluation of SO ₂ recovery in a ceramic hollow fibre membrane contactor. 2012 , 52, 151-154	13
1527	Membrane gas separation applications in natural gas processing. 2012 , 96, 15-28	371
1526	The effect of relative humidity on the gas permeability and swelling in PFSI membranes. 2012 , 37, 6308-6316	68
1525	Effects of carbonization heating rate on CO ₂ separation of derived carbon membranes. 2012 , 88, 174-183	47
1524	A comparison on gas separation between PES (polyethersulfone)/MMT (Na-montmorillonite) and PES/TiO ₂ mixed matrix membranes. 2012 , 92, 57-63	94
1523	Simulation study of single-gas permeation of carbon dioxide and methane in hybrid inorganic-organic membrane. 2012 , 387-388, 30-39	6
1522	Effective separation of propylene/propane binary mixtures by ZIF-8 membranes. 2012 , 390-391, 93-98	303
1521	Ultem /ZIF-8 mixed matrix hollow fiber membranes for CO ₂ /N ₂ separations. 2012 , 401-402, 76-82	253
1520	Thermally rearranged (TR) polybenzoxazole hollow fiber membranes for CO ₂ capture. 2012 , 403-404, 169-178	109
1519	Exfoliated zeolite Nu-6(2) as filler for 6FDA-based copolyimide mixed matrix membranes. 2012 , 411-412, 146-152	20
1518	Recent developments in membrane-based technologies for CO ₂ capture. 2012 , 38, 419-448	366
1517	Enhanced gas transport properties and molecular mobilities in nano-constrained poly[1-(trimethylsilyl)-1-propyne] membranes. 2012 , 53, 2394-2401	18
1516	Preparation and characterization of acrylonitrile butadiene styrene and cadmium sulfide nanoparticle mixed matrix membranes for gas separation. 2013 , 8, 311-317	2
1515	CO ₂ separation properties of a glassy aromatic polyimide composite membranes containing high-content 1-butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide ionic liquid. 2013 , 430, 211-222	89
1514	CNT/PDMS composite membranes for H ₂ and CH ₄ gas separation. 2013 , 38, 10494-10501	75
1513	Modelling carbon membranes for gas and isotope separation. 2013 , 15, 4832-43	84
1512	Carbon molecular sieve gas separation membranes based on an intrinsically microporous polyimide precursor. 2013 , 62, 88-96	95
1511	Equilibrium and transient sorption of vapours and gases in the polymer of intrinsic microporosity PIM-1. 2013 , 434, 148-160	65

1510	Perfluorocyclobutane and poly(vinylidene fluoride) blend membranes for fuel cells. 2013 , 110, 306-315	18
1509	Membrane Separation of CO ₂ from Natural Gas: A State-of-the-Art Review on Material Development. 2013 , 333, 135-147	6
1508	Synthesis of room temperature ionic liquids based random copolyimides for gas separation applications. 2013 , 49, 482-491	35
1507	Noble Gas Separation using PG-ESX (X = 1, 2, 3) Nanoporous Two-Dimensional Polymers. 2013 , 117, 393-402	51
1506	A parametric study of the impact of membrane materials and process operating conditions on carbon capture from humidified flue gas. 2013 , 431, 139-155	77
1505	Gas permeation and separation properties of polyimide/ZSM-5 zeolite composite membranes containing liquid sulfolane. 2013 , 128, 3814-3823	22
1504	Porous Graphene and Nanomeshes. 2013 , 129-151	1
1503	Copper(I)-containing supported ionic liquid membranes for carbon monoxide/nitrogen separation. 2013 , 438, 38-45	64
1502	Theoretical investigation of a water-gas-shift catalytic membrane for diesel reformat purification. 2013 , 59, 4334-4345	1
1501	Membranes from nanoporous 1D and 2D materials: A review of opportunities, developments, and challenges. 2013 , 104, 908-924	155
1500	Gas Separation, Applications. 2013 , 1	3
1499	Effect of MFI zeolite intermediate layers on gas separation performance of carbon molecular sieve (CMS) membranes. 2013 , 446, 220-229	21
1498	Fluorous metal-organic frameworks with enhanced stability and high H ₂ /CO ₂ storage capacities. 2013 , 3, 3312	118
1497	Rarefied gas flow through nanoscale tungsten channels. 2013 , 42, 32-8	
1496	Energy-efficient polymeric gas separation membranes for a sustainable future: A review. 2013 , 54, 4729-4761	895
1495	Recent Applications of Polymer Blends in Gas Separation Membranes. 2013 , 36, 1838-1846	119
1494	Optimization strategy and procedure for coal bed methane separation. 2013 , 22, 533-541	8
1493	Glassy Polynorbornenes with SiDSi Containing Side Groups. Novel Materials for Hydrocarbon Membrane Separation. 2013 , 46, 8973-8979	42

1492	Novel Spirobifluorene- and Dibromospirobifluorene-Based Polyimides of Intrinsic Microporosity for Gas Separation Applications. 2013 , 46, 9618-9624	89
1491	Specific chemical reactivities of spatially separated 3-aminophenol conformers with cold Ca ⁺ ions. 2013 , 342, 98-101	115
1490	Ultrathin, molecular-sieving graphene oxide membranes for selective hydrogen separation. 2013 , 342, 95-8	1007
1489	Facilitated transport behavior of humidified gases through thin-film composite polyamide membranes for carbon dioxide capture. 2013 , 429, 349-354	24
1488	Effect of composition and nanostructure on CO ₂ /N ₂ transport properties of supported alkyl-imidazolium block copolymer membranes. 2013 , 430, 312-320	42
1487	High adsorption performance polymers modified by small molecules containing functional groups for CO ₂ separation. 2013 , 3, 50-54	10
1486	Water-solubility-driven separation of gases using graphene membrane. 2013 , 428, 546-553	44
1485	Evaluation of a new supercritical CO ₂ -assisted deposition method for preparing gas selective polymer/zeolite composite membranes. 2013 , 429, 428-435	10
1484	High performance polymer membranes for CO ₂ separation. 2013 , 2, 238-244	66
1483	Introduction. 2013 , 1	
1482	Advanced thin zeolite/metal flat sheet membrane for energy efficient air dehumidification and conditioning. 2013 , 104, 596-609	59
1481	Nanocomposites with graft copolymer-templated mesoporous MgTiO ₃ perovskite for CO ₂ capture applications. 2013 , 5, 6615-21	40
1480	Preparation of novel metal-carboxylate system MOF membrane for gas separation. 2013 , 119, 94-101	32
1479	Ceramic Supported PDMS and PEGDA Composite Membranes for CO ₂ Separation. 2013 , 21, 348-356	26
1478	Comparison of theoretical and experimental mass transfer coefficients of gases in supported ionic liquid membranes. 2013 , 118, 255-263	14
1477	Nanocrystalline Zeolite Tetraethylammonium-Beta Membrane for Preferential Sorption and Transport of CO ₂ over N ₂ . 2013 , 36, 1209-1216	10
1476	High flux CO ₂ transporting nanochannel fabricated by the self-assembly of a linear-brush block copolymer. 2013 , 1, 8097	13
1475	A Study on Permeabilities and Selectivities of Small-Molecule Gases for Composite Ionic Liquid and Polymer Membranes. 2013 , 448-453, 765-770	2

1474	An efficient polymer molecular sieve for membrane gas separations. 2013 , 339, 303-7	710
1473	An overview of novel technologies to valorise coke oven gas surplus. 2013 , 110, 150-159	92
1472	Nanoporous organic polymer/cage composite membranes. 2013 , 52, 1253-6	221
1471	Graphene with line defect as a membrane for gas separation: Design via a first-principles modeling. 2013 , 607, 153-158	52
1470	Nanoporous Organic Polymer/Cage Composite Membranes. 2013 , 125, 1291-1294	52
1469	Phenolphthalein-based cardo poly(arylene ether sulfone): Preparation and application to separation membranes. 2013 , 128, 1-12	22
1468	A Hybrid Separation Process for the Recovery of Carbon Dioxide From Flue Gases. 2013 , 37, 2154-2163	7
1467	Influence of processing strategies on porosity and permeability of [hucleated isotactic polypropylene stretched films. 2013 , 54, 2796-2807	39
1466	Preparation of Thin Li ₄ SiO ₄ Membranes by Using a CVD Method. 2013 , 37, 1012-1019	8
1465	High-performance ester-crosslinked hollow fiber membranes for natural gas separations. 2013 , 428, 251-259	47
1464	Diffusion of ethane and ethylene in carbon molecular sieve membranes by pulsed field gradient NMR. 2013 , 181, 228-232	7
1463	Separate Expression of Polarization Modulus and Enrichment by Mass Transport Parameters for Membrane Gas Separation. <i>Industrial & Engineering Chemistry Research</i> , 2013 , 52, 10441-10449	3-9 5
1462	High performance carbon molecular sieve membranes derived from hyperbranched polyimide precursors for improved gas separation applications. 2013 , 53, 101-111	33
1461	Sorption and transport of small gas molecules in thermally rearranged (TR) polybenzoxazole membranes based on 2,2-bis(3-amino-4-hydroxyphenyl)-hexafluoropropane (bisAPAF) and 4,4'-hexafluoroisopropylidene diphthalic anhydride (6FDA). 2013 , 441, 1-8	53
1460	The effect of block length upon structure, physical properties, and transport within a series of sulfonated poly(arylene ether sulfone)s. 2013 , 430, 106-112	19
1459	Effect of the acetate group content on gas permeation through membranes based on poly(ethylene-co-vinyl acetate) and its blends. 2013 , 443, 227-236	9
1458	Membranes from rigid block hexafluoro copolyaramides: Effect of block lengths on gas permeation and ideal separation factors. 2013 , 443, 36-44	11
1457	Hydrogen sorption in polymers for membrane applications. 2013 , 54, 3026-3037	40

1456	Modeling gas and vapor sorption in a polymer of intrinsic microporosity (PIM-1). 2013 , 347, 35-44		36
1455	Modelling and Multi-stage Design of Membrane Processes Applied to Carbon Capture in Coal-fired Power Plants. 2013 , 37, 932-940		15
1454	Permeance of H ₂ through porous graphene from molecular dynamics. 2013 , 175-176, 101-105		52
1453	Reverse-selective polymeric membranes for gas separations. 2013 , 38, 740-766		136
1452	Aminosilane-Functionalized Hollow Fiber Sorbents for Post-Combustion CO ₂ Capture. <i>Industrial & Engineering Chemistry Research</i> , 2013 , 52, 8928-8935	3.9	12
1451	Gas Permeation Properties of Fluorinated Ionic Liquids. <i>Industrial & Engineering Chemistry Research</i> , 2013 , 52, 4994-5001	3.9	50
1450	Synthesis of porous, nitrogen-doped adsorption/diffusion carbonaceous membranes for efficient CO ₂ separation. 2013 , 34, 452-9		41
1449	Thin Film Nanocomposite Membranes for Water Desalination. 2013 , 163-194		3
1448	Environmental applications using graphene composites: water remediation and gas adsorption. 2013 , 5, 3149-71		407
1447	Predictive models for mixed-matrix membrane performance: a review. 2013 , 113, 4980-5028		363
1446	Analysis of hollow fibre membrane systems for multicomponent gas separation. 2013 , 91, 332-347		36
1445	Adsorbents for the post-combustion capture of CO ₂ using rapid temperature swing or vacuum swing adsorption. 2013 , 104, 418-433		287
1444	Porosity enhancement in nucleated isotactic polypropylene stretched films by thermal annealing. 2013 , 54, 2577-2589		63
1443	Room-temperature synthesis of ZIF-90 nanocrystals and the derived nano-composite membranes for hydrogen separation. 2013 , 1, 6081		117
1442	Current status and development of membranes for CO ₂ /CH ₄ separation: A review. 2013 , 12, 84-107		428
1441	Permeability and solubility of carbon dioxide in different glassy polymer systems with and without plasticization. 2013 , 444, 429-439		30
1440	Challenges and opportunities for mixed-matrix membranes for gas separation. 2013 , 1, 4610		474
1439	Interfacially polymerized layers for oxygen enrichment: a method to overcome Robeson's upper-bound limit. 2013 , 5, 5563-8		19

1438	Molecular modelling of oxygen and water permeation in polyethylene. 2013 , 54, 2988-2998		19
1437	Permeability and diffusivity of CO ₂ in glassy polymers with and without plasticization. 2013 , 435, 176-185		65
1436	Physical aging, high temperature and water vapor permeation studies of UV-rearranged PIM-1 membranes for advanced hydrogen purification and production. 2013 , 38, 9786-9793		21
1435	Biohydrogen purification by membranes: An overview on the operational conditions affecting the performance of non-porous, polymeric and ionic liquid based gas separation membranes. 2013 , 38, 9673-9687	119	
1434	Advances in Hydrogen Separation and Purification with Membrane Technology. 2013 , 245-268		20
1433	Alkyl imidazolium-functionalized cardo-based poly(ether ketone)s as novel polymer membranes for O ₂ /N ₂ and CO ₂ /N ₂ separations. 2013 , 54, 3534-3541		34
1432	CO ₂ Capture by Tertiary Amine Absorbents: A Performance Comparison Study. <i>Industrial & Engineering Chemistry Research</i> , 2013 , 52, 8323-8331	3.9	299
1431	Mixed matrix membranes based on polyetherurethane and polyesterurethane containing silica nanoparticles for separation of CO ₂ /CH ₄ gases. 2013 , 116, 1-12		64
1430	Structure and properties of new highly soluble aromatic poly(etherimide)s containing isopropylidene groups. 2013 , 45, 1202-1209		15
1429	Current challenges in membrane separation of CO ₂ from natural gas: A review. 2013 , 17, 46-65		254
1428	Perfluorocarbon-based supported liquid membranes for O ₂ /N ₂ separation. 2013 , 116, 19-24		13
1427	High performance ZIF-8/PBI nano-composite membranes for high temperature hydrogen separation consisting of carbon monoxide and water vapor. 2013 , 38, 229-239		113
1426	Carbon dioxide selective mixed matrix composite membrane containing ZIF-7 nano-fillers. 2013 , 425-426, 235-242		340
1425	Seeded growth, silylation, and organic/water separation properties of MCM-48 membranes. 2013 , 427, 293-302		12
1424	Commercial adsorbents as benchmark materials for separation of carbon dioxide and nitrogen by vacuum swing adsorption process. 2013 , 103, 203-215		13
1423	Anomalous Phenomena Occurring during Permeation and Sorption of C ₁ to C ₆ Alcohol Vapors in Teflon AF 2400. <i>Industrial & Engineering Chemistry Research</i> , 2013 , 52, 10406-10417	3.9	8
1422	Entropy-Driven Molecular Separations in 2D-Nanoporous Materials, with Application to High-Performance Paraffin/Olefin Membrane Separations. 2013 , 117, 17050-17057		20
1421	Techno-economic Analysis of Hybrid Processes for Biogas Upgrading. <i>Industrial & Engineering Chemistry Research</i> , 2013 , 52, 16929-16938	3.9	67

1420	Insights into CO ₂ /N ₂ separation through nanoporous graphene from molecular dynamics. 2013 , 5, 9984-7		120
1419	Inverse Gas Chromatographic Study of Sorption Thermodynamics in Thermally Rearranged Polymer Based on 2,2-Bis(3-amino-4-hydroxyphenyl)-hexafluoropropane and 4,4'-Hexafluoroisopropylidene Diphthalic Anhydride. <i>Industrial & Engineering Chemistry Research</i> , 2013 , 52, 10467-10475	3.9	11
1418	Mixed Mechanism Model for Permeation of Gases in Hybrid Inorganic/Organic Membranes. <i>Industrial & Engineering Chemistry Research</i> , 2013 , 52, 3258-3265	3.9	3
1417	MOFs for CO ₂ capture and separation from flue gas mixtures: the effect of multifunctional sites on their adsorption capacity and selectivity. 2013 , 49, 653-61		514
1416	CO ₂ Selective Separation Membranes. 2013 , 259-309		
1415	Correlation of Gas Permeability in a Metal-Organic Framework MIL-101(Cr)-Polysulfone Mixed-Matrix Membrane with Free Volume Measurements by Positron Annihilation Lifetime Spectroscopy (PALS). 2013 , 3, 331-53		57
1414	Methane activation using noble gases in a dielectric barrier discharge reactor. 2013 , 20, 083509		21
1413	Nanoscale infiltration behaviour and through-thickness permeability of carbon nanotube buckypapers. 2013 , 24, 015704		37
1412	CO ₂ Capture. 2013 , 1		2
1411	Oxygen/Nitrogen Separation. 2013 , 1		1
1410	Experimental investigation and simulation of hollow fiber membrane process for SF ₆ recovery from GIS. 2013 , 24, 997-1004		10
1409	Polymers of Intrinsic Microporosity. 2013 , 1		
1408	Ionic Rectification through the Formation of Complexes or Precipitation in Carbon Nanotube Membranes. 2013 , 42, 1173-1175		
1407	Selectivity and self-diffusion of CO ₂ and H ₂ in a mixture on a graphite surface. 2013 , 1, 38		19
1406	Simulated Process Evaluation of Synthetic Natural Gas Production Based on Biomass Gasification and Potential of CO ₂ Capture Using Membrane Separation Technology. 2013 , 56, 395-400		3
1405	Fumaric acid production by <i>Rhizopus oryzae</i> and its facilitated extraction via organic liquid membrane. 2014 , 13, 1182-1187		1
1404	Vapour permeation and sorption in fluoropolymer gel membrane based on ionic liquid 1-ethyl-3-methylimidazolium bis(trifluoromethylsulphonyl)imide. 2014 , 68,		10
1403	Recent studies on applications of nanoresonators in sensors and molecular transportation. 2014 ,		

1402	Hybrid gas separation polymeric membranes containing nanoparticles. 2014 , 54, 637-651	22
1401	Metal-Organic Frameworks: Frameworks in Mixed-Matrix Membranes. 2014 , 1-15	2
1400	Nanoresonators in Sensors and Molecular Transportation: An Introduction to the Possibilities of Carbon Nanotubes and Graphene Sheets. 2014 , 8, 29-37	2
1399	Methane activation using Kr and Xe in a dielectric barrier discharge reactor. 2014 , 21, 103504	12
1398	Preparation and Characterization of Newly Developed Polysulfone/Polyethersulfone Blend Membrane for CO ₂ Separation. 2014 , 699, 325-330	8
1397	Separation of DMMP/Water Vapor with PDMS/Silica Membranes for the Sample Inlet of Ion Mobility Spectrometers. 2014 , 1049-1050, 142-147	
1396	Desorption-controlled separation of natural gas alkanes by zeolite membranes. 2014 , 4, 59831-59834	8
1395	Graphdiyne Pores: Ad Hoc Openings for Helium Separation Applications. 2014 , 118, 29966-29972	61
1394	Gas transport properties of novel mixed matrix membranes made of titanate nanotubes and PBI or PPO. 2014 , 1-9	7
1393	Ceramic-carbonate dual-phase membrane with improved chemical stability for carbon dioxide separation at high temperature. 2014 , 263, 172-179	30
1392	Thermal conductivity of carbon dioxide from non-equilibrium molecular dynamics: a systematic study of several common force fields. 2014 , 141, 134504	17
1391	A facile synthesis of mixed soft-segmented poly(urethane-imide)/polyhedral oligomeric silsesquioxane hybrid nanocomposites and study of their structure-transport properties. 2014 , 63, 507-513	4
1390	Cholinium-based supported ionic liquid membranes: a sustainable route for carbon dioxide separation. 2014 , 7, 110-3	62
1389	Impact of choice of CO ₂ separation technology on thermo-economic performance of Bio-SNG production processes. 2014 , 38, 299-318	38
1388	Triptycene induced enhancement of membrane gas selectivity for microporous Tröger's base polymers. 2014 , 26, 3526-31	265
1387	Greener pathways for energy-intensive commodity chemicals: opportunities and challenges. 2014 , 6, 90-98	8
1386	Equilibrium Adsorption Studies of CO ₂ , CH ₄ , and N ₂ on Amine Functionalized Polystyrene. 2014 , 49, 2376-2388	10
1385	Multi-criteria analyses of two solvent and one low-temperature concepts for acid gas removal from natural gas. 2014 , 20, 38-49	6

1384	Molecular Dynamics Study of Programmable Nanoporous Graphene. 2014 , 4,	12
1383	Carbon nanotube- and carbon fiber-reinforcement of ethylene-octene copolymer membranes for gas and vapor separation. 2014 , 4, 20-39	16
1382	Composite ionic liquid and polymer membranes for gas separation at elevated temperatures. 2014 , 450, 407-417	89
1381	A cellulose acetate/multi-walled carbon nanotube mixed matrix membrane for CO ₂ /N ₂ separation. 2014 , 451, 55-66	143
1380	Molecular simulations on separation of atoms with carbon nanotubes in torsion. 2014 , 81, 280-283	6
1379	Layer-by-layer preparation of polyelectrolyte multilayer membranes for separation. 2014 , 5, 1817-1831	233
1378	Solubility controlled permeation of hydrocarbons: New membrane materials and results. 2014 , 453, 532-545	73
1377	Modeling CO ₂ solubility and transport in poly(ethylene terephthalate) above and below the glass transition. 2014 , 451, 305-311	20
1376	Gas separation using porous cement membrane. 2014 , 26, 140-6	4
1375	Cleaner recovery of tetrafluoroethylene by coupling residue-recycled polyimide membrane unit to distillation. 2014 , 124, 89-98	12
1374	Fabrication and modification of cellulose acetate based mixed matrix membrane: Gas separation and physical properties. 2014 , 20, 1050-1060	52
1373	Visualizing MOF Mixed Matrix Membranes at the Nanoscale: Towards Structure-Performance Relationships in CO ₂ /CH ₄ Separation Over NH ₂ -MIL-53(Al)@PI. 2014 , 24, 249-256	236
1372	Comparative permeation studies on three supported membranes: Pure ZIF-8, pure polymethylphenylsiloxane, and mixed matrix membranes. 2014 , 189, 210-215	42
1371	Mixed matrix membranes comprising MOFs and porous silicate fillers prepared via spin coating for gas separation. 2014 , 107, 66-75	74
1370	Mechanistic insight into highly efficient gas permeation and separation in a shape-persistent ladder polymer membrane. 2014 , 16, 6075-83	38
1369	Gas transport in coextruded multilayered membranes with alternating dense and porous polymeric layers. 2014 , 55, 1259-1266	10
1368	A critical review of transport through osmotic membranes. 2014 , 454, 516-537	211
1367	Poly(ethyleneimine) infused and functionalized Torlon® -silica hollow fiber sorbents for post-combustion CO ₂ capture. 2014 , 55, 1341-1346	19

1366	Synthesis and gas transport properties of novel poly(aryl ether ketone)s with branched structure. 2014 , 63, 718-721	3
1365	Ultimate permeation across atomically thin porous graphene. 2014 , 344, 289-92	607
1364	Gas transport properties and propylene/propane separation characteristics of ZIF-8 membranes. 2014 , 451, 85-93	201
1363	Adsorption separation performance of H ₂ /CH ₄ on ETS-4 by concentration pulse chromatography. 2014 , 23, 213-220	4
1362	Tuning the nanopore structure and separation behavior of hybrid organosilica membranes. 2014 , 185, 224-234	50
1361	Structure, physical properties, and molecule transport of gas, liquid, and ions within a pentablock copolymer. 2014 , 464, 179-187	33
1360	Synthesis and characterization of fluorene-based polybenzimidazole copolymer for gas separation. 2014 , 131, n/a-n/a	8
1359	Highly size-selective ionically crosslinked multilayer polymer films for light gas separation. 2014 , 26, 746-51	44
1358	PEG Containing Thiolene Network Membranes for CO ₂ Separation: Effect of Cross-Linking on Thermal, Mechanical, and Gas Transport Properties. 2014 , 47, 3243-3253	38
1357	A Review of Conventional and Emerging Process Technologies for the Recovery of Helium from Natural Gas. 2014 , 32, 49-72	56
1356	A Review of the Absorption and Desorption Processes of Carbon Dioxide in Water Systems. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 2-22	3-9 43
1355	Simultaneous hydrogen sulphide and carbon dioxide removal from biogas by water-swollen reverse osmosis membrane. 2014 , 131, 108-116	22
1354	Molecular interaction, gas transport properties and plasticization behavior of cPIM-1/Torlon blend membranes. 2014 , 462, 119-130	56
1353	Intrinsically Microporous Soluble Polyimides Incorporating Tröger's Base for Membrane Gas Separation. 2014 , 47, 3254-3262	185
1352	Gas permeation properties of poly(2,5-benzimidazole) derivative membranes. 2014 , 131, n/a-n/a	5
1351	Porous inorganic membranes for CO ₂ capture: present and prospects. 2014 , 114, 1413-92	396
1350	Cardo polyimides/TiO ₂ mixed matrix membranes: Synthesis, characterization, and gas separation property improvement. 2014 , 122, 367-375	27
1349	Carbon nanotube membranes for water purification: A bright future in water desalination. 2014 , 336, 97-109	630

1348	Gas permeation properties of hollow glass-crystalline microspheres. 2014 , 4, 9997-10000	9
1347	Tröger's base-based copolymers with intrinsic microporosity for CO ₂ separation and effect of Tröger's base on separation performance. 2014 , 5, 2793-2800	88
1346	Gas transport properties of aromatic polyamides containing adamantyl moiety. 2014 , 453, 175-191	43
1345	Fundamental Investigation of the Factors Controlling the CO ₂ Permeability of Facilitated Transport Membranes Containing Amine-Functionalized Task-Specific Ionic Liquids. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 2422-2431	3.9 50
1344	Contributions of diffusion and solubility selectivity to the upper bound analysis for glassy gas separation membranes. 2014 , 453, 71-83	132
1343	Synthesis, characterization, and gas transport properties of novel iptycene-based poly[bis(benzimidazobenzisoquinolinones)]. 2014 , 55, 102-109	22
1342	The effect of incorporating ionic liquid into polyethersulfone-SAPO34 based mixed matrix membrane on CO ₂ gas separation performance. 2014 , 135, 252-258	54
1341	Microporous Polyimides with Rationally Designed Chain Structure Achieving High Performance for Gas Separation. 2014 , 47, 7477-7483	103
1340	Absorption of CO ₂ by AHPDBz aqueous blend in PTFE hollow fiber membrane contactors. 2014 , 138, 84-91	27
1339	Pristine and thermally-rearranged gas separation membranes from novel o-hydroxyl-functionalized spirobifluorene-based polyimides. 2014 , 5, 6914-6922	61
1338	In-Situ Chemical Trapping of Oxygen in the Splitting of Carbon Dioxide by Plasma. 2014 , 11, 985-992	41
1337	CFD (computational fluid dynamics) analysis of a novel reactor design using ion transport membranes for oxy-fuel combustion. 2014 , 77, 932-944	26
1336	An imidazolium-based ionene blended with crosslinked PEO as a novel polymer membrane for selective CO ₂ separation. 2014 , 22, 907-916	23
1335	Novel polyoxadiazoles with non-coplanar ortho-linked structures as highly CO ₂ permselective membranes. 2014 , 4, 17993-18002	5
1334	Silylated mesoporous silica membranes on polymeric hollow fiber supports: synthesis and permeation properties. 2014 , 6, 17877-86	18
1333	Supported ionic liquid phase (SILP) materials for removal of hazardous gas compounds: efficient and irreversible NH ₃ adsorption. 2014 , 16, 3560	36
1332	Synthesis and characterization of a novel type of mixed matrix membrane: surface sieving membrane. 2014 , 4, 10140	13
1331	Missing gas-phase source of HONO inferred from Zeppelin measurements in the troposphere. 2014 , 344, 292-6	117

1330	Olefin separation via charge transfer and dipole formation at the silver nanoparticle/tetracyanoquinoid interface. 2014 , 4, 30156-30161	9
1329	ZIF-8 micromembranes for gas separation prepared on laser-perforated brass supports. 2014 , 2, 11177-11184	18
1328	Improved permeability and selectivity in porous graphene for hydrogen purification. 2014 , 16, 25755-9	35
1327	Playing with ionic liquid mixtures to design engineered CO ₂ separation membranes. 2014 , 16, 17172-82	62
1326	Gas separation using Knudsen and surface diffusion II: Effects of surface modification of epoxy/porous SiO ₂ compositePeer review under responsibility of The Ceramic Society of Japan and the Korean Ceramic Society.View all notes. 2014 , 2, 190-194	6
1325	Experimental test with polymeric membrane for the biogas purification from CO ₂ and H ₂ S. 2014 , 135, 352-358	37
1324	High permeability hydrogel membranes of chitosan/poly ether-block-amide blends for CO ₂ separation. 2014 , 469, 198-208	87
1323	Transport diffusivity of propane and propylene inside SWNTs from equilibrium molecular dynamics simulations. 2014 , 16, 24697-703	6
1322	Helium isotope enrichment by resonant tunneling through nanoporous graphene bilayers. 2014 , 118, 6457-65	21
1321	An overview of current status of carbon dioxide capture and storage technologies. 2014 , 39, 426-443	1633
1320	Hybrid fixed-site-carrier membranes for CO ₂ removal from high pressure natural gas: Membrane optimization and process condition investigation. 2014 , 470, 266-274	45
1319	Silver nanoparticle/PDMS nanocomposite catalytic membranes for H ₂ S gas removal. 2014 , 470, 346-355	35
1318	Stability of aqueous amine solutions to thermal and oxidative degradation in the absence and the presence of CO ₂ . 2014 , 29, 16-21	22
1317	AcrylonitrileButadieneStyrene/poly(vinyl acetate)/nanosilica mixed matrix membrane for He/CH ₄ separation. 2014 , 9, 638-644	33
1316	Carbon dioxide permeation study through carbon hollow fiber membranes at pressures up to 55 bar. 2014 , 134, 158-162	11
1315	Thermally Rearrangeable PIM-Polyimides for Gas Separation Membranes. 2014 , 47, 5595-5606	95
1314	Synthesis, oxidation and crosslinking of tetramethyl bisphenol F (TMBPF)-based polymers for oxygen/nitrogen gas separations. 2014 , 55, 5623-5634	11
1313	Gas Separation Membrane Materials: A Perspective. 2014 , 47, 6999-7013	717

1312	Synthesis and characterization of triptycene-based polyimides with tunable high fractional free volume for gas separation membranes. 2014 , 2, 13309-13320		144
1311	Synthesis of cardo-polymers using Tröger's base formation. 2014 , 5, 5255		52
1310	Stability of LaBr ₃ /Ce Oxide/Carbonate Dual-Phase Membranes for Carbon Dioxide Separation at High Temperatures. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 2432-2440	3.9	31
1309	Effect of molecular structure on the gas permeability of cellulose aliphataate esters. 2014 , 32, 1-8		15
1308	Nanotechnology for Sustainable Development. 2014 ,		11
1307	An equation of state (EoS) based model for the fluid solubility in semicrystalline polymers. 2014 , 367, 173-181		26
1306	Zeolite-Filled Porous Mixed Matrix Membranes for Air Separation. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 2781-2789	3.9	31
1305	Tunable water desalination across graphene oxide framework membranes. 2014 , 16, 8646-54		159
1304	Controlling gas permeability of a graft copolymer membrane using solvent vapor treatment. 2014 , 22, 160-164		10
1303	Perfluorooctanol-based liquid membranes for H ₂ /O ₂ separation. 2014 , 122, 431-439		7
1302	A highly permeable polyimide with enhanced selectivity for membrane gas separations. 2014 , 2, 4874-4877		137
1301	Hybrid FSC membrane for CO ₂ removal from natural gas: Experimental, process simulation, and economic feasibility analysis. 2014 , 60, 4174-4184		35
1300	Nationwide, Regional, and Statewide CO ₂ Capture, Utilization, and Sequestration Supply Chain Network Optimization. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 7489-7506	3.9	108
1299	Preparation and Characterization of C ₆₀ -Filled Ethyl Cellulose Mixed-Matrix Membranes for Gas Separation of Propylene/Propane. 2014 , 37, 611-619		26
1298	Gas Separation in Nanoporous Graphene from First Principle Calculations. 2014 , 118, 19172-19179		57
1297	Solubility of CO ₂ in and Density, Viscosity, and Surface Tension of Aqueous 2-Amino-1,3-propanediol (Serinol) Solutions. 2014 , 59, 355-361		16
1296	Estimating gas permeability and permselectivity of microporous polymers. 2014 , 468, 259-268		30
1295	Gas sorption, diffusion, and permeation in thermally rearranged poly(benzoxazole-co-imide) membranes. 2014 , 453, 556-565		36

1294	Gas separation using Knudsen and surface diffusion I: Preparation of epoxy/porous SiO ₂ composite. 2014 , 183, 201-206		3
1293	MIL-53 frameworks in mixed-matrix membranes. 2014 , 196, 165-174		85
1292	Molecular separation with carbon nanotubes. 2014 , 90, 50-55		5
1291	Facilitated transport of CO ₂ through Co(II)-S-EPDM ionomer membrane. 2014 , 469, 151-161		25
1290	Tröger's Base-Based Microporous Polyimide Membranes for High-Performance Gas Separation.. 2014 , 3, 597-601		138
1289	Polymeric molecular sieve membranes via in situ cross-linking of non-porous polymer membrane templates. 2014 , 5, 3705		118
1288	Thin Ionic Liquid Membranes Based on Inorganic Supports with Different Pore Sizes. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 8045-8056	3.9	56
1287	Improvement in CO ₂ /H ₂ separation by fabrication of poly(ether-b-amide6)/glycerol triacetate gel membranes. 2014 , 469, 43-58		71
1286	Tunable hydrogen separation in porous graphene membrane: first-principle and molecular dynamic simulation. 2014 , 6, 8048-58		144
1285	Preparation of T-type zeolite membranes using a dip-coating seeding suspension containing colloidal SiO ₂ . 2014 , 197, 17-25		43
1284	Catalytic performances of b-oriented bi-layered HZSM-5 coatings for cracking of hydrocarbon fuels. 2014 , 482, 8-15		18
1283	Preparation of Silica Hybrid Membranes for High Temperature CO ₂ Separation. 2014 , 47, 569-573		6
1282	Polyimide hollow fiber membranes for CO ₂ separation from wet gas mixtures. 2014 , 31, 1023-1034		30
1281	Co-extruded polymeric films for gas separation membranes. 2014 , 131, n/a-n/a		15
1280	Low pressure biomethane production by anaerobic digestion (AD) for the smart grid injection. 2015 , 154, 319-325		13
1279	Modeling and CFD Simulation of Membrane Flow Process. 2015 ,		
1278	Oxy Fuel Combustion Power Production Using High Temperature O ₂ Membranes. 2015 , 81-116		1
1277	Determination of the effective diffusivity of water in a poly (methyl methacrylate) membrane containing carbon nanotubes using kinetic Monte Carlo simulations. 2015 , 143, 164903		3

1276	Bio-methane Generation from Biogas Upgrading by Semi-permeable Membranes: An Experimental, Numerical and Economic Analysis. 2015 , 82, 971-977	11
1275	Thermodynamic model for the permeability of light gases in glassy polymers. 2015 , 61, 2776-2788	21
1274	Synthetische Membranen für die Wasseraufbereitung: aktueller Stand und Perspektiven. 2015 , 127, 3427-3447	18
1273	Ethylene vinyl acetate/poly(ethylene glycol) blend membranes for CO ₂ /N ₂ separation. 2015 , 5, 668-681	11
1272	Effects of Thermal Treatment and Physical Aging on the Gas Transport Properties in Matrimid®. 2015 , 70, 367-379	20
1271	Hollow Fiber Membrane Dehumidification Device for Air Conditioning System. 2015 , 5, 722-38	51
1270	Functionalized Mesoporous Silica Membranes for CO ₂ Separation Applications. 2015 , 2015, 1-9	15
1269	Enhanced Gas Permeation through Graphene Nanocomposites. 2015 , 119, 13700-13712	62
1268	Fluorinated Polyimides: Synthesis, Properties, and Applications. 2015 , 97-185	8
1267	Emerging CO ₂ capture systems. 2015 , 40, 126-166	274
1266	Fabrication of thermally rearranged (TR) polybenzoxazole hollow fiber membranes with superior CO ₂ /N ₂ separation performance. 2015 , 490, 129-138	46
1265	In Silico Determination of Gas Permeabilities by Non-Equilibrium Molecular Dynamics: CO ₂ and He through PIM-1. 2015 , 5, 99-119	32
1264	Gas separation membranes made through thermal rearrangement of ortho-methoxypolyimides. 2015 , 5, 102261-102276	17
1263	Relationship between long-range diffusion and diffusion in the ZIF-8 and polymer phases of a mixed-matrix membrane by high field NMR diffusometry. 2015 , 477, 123-130	29
1262	Fabrication of MMMs with improved gas separation properties using externally-functionalized MOF particles. 2015 , 3, 5014-5022	228
1261	Pentipitycene-based polyimides with hierarchically controlled molecular cavity architecture for efficient membrane gas separation. 2015 , 480, 20-30	68
1260	Processing of Nanoporous and Dense Thin Film Ceramic Membranes. 2015 , 431-458	1
1259	Effect of methanol treatment on gas sorption and transport behavior of intrinsically microporous polyimide membranes incorporating Tröger's base. 2015 , 480, 104-114	59

1258	Prediction of plasticization pressure of polymeric membranes for CO ₂ removal from natural gas. 2015 , 480, 39-46	36
1257	Hollow ZIF-8 nanoparticles improve the permeability of mixed matrix membranes for CO ₂ /CH ₄ gas separation. 2015 , 480, 11-19	122
1256	Synthesis and Effect of Physical Aging on Gas Transport Properties of a Microporous Polyimide Derived from a Novel Spirobifluorene-Based Dianhydride. 2015 , 4, 231-235	78
1255	Simulation of Pore Width and Pore Charge Effects on Selectivities of CO ₂ vs. H ₂ from a Syngas-like Mixture in Carbon Mesopores. 2015 , 64, 150-159	6
1254	Synthetic membranes for water purification: status and future. 2015 , 54, 3368-86	445
1253	Comparative Reactivity of Me ₃ Si-substituted Norbornene Derivatives in Ring-Opening Metathesis Polymerization. 2015 , 7, 107-115	14
1252	Polyhedral oligomeric silsesquioxane/polyamide bio-nanocomposite membranes: structure-gas transport properties. 2015 , 5, 11272-11283	19
1251	Mixed matrix membranes incorporated with amine-functionalized titanium-based metal-organic framework for CO ₂ /CH ₄ separation. 2015 , 478, 130-139	104
1250	Pulse Chromatographic Studies of Adsorption of CO ₂ , CH ₄ , and N ₂ Using Amine Functionalized Polystyrene Adsorbents. 2015 , 50, 718-728	2
1249	Solubility, absorption heat and mass transfer studies of CO ₂ absorption into aqueous solution of 1-dimethylamino-2-propanol. 2015 , 144, 121-129	64
1248	Mixed matrix membrane performance enhancement using alkanolamine solution. 2015 , 483, 84-93	38
1247	Metal-organic framework based mixed matrix membranes: a solution for highly efficient CO ₂ capture?. 2015 , 44, 2421-54	627
1246	Graphene and graphene oxide: advanced membranes for gas separation and water purification. 2015 , 2, 417-424	97
1245	Supported Ionic Liquid Membranes and Ion-Jelly Membranes with [BMIM][DCA]: Comparison of Its Performance for CO ₂ Separation. 2015 , 5, 13-21	21
1244	A multi-scale framework for CO ₂ capture, utilization, and sequestration: CCUS and CCU. 2015 , 81, 2-21	139
1243	Determination of Vapor-Liquid Equilibrium (VLE) Plots of 1-Dimethylamino-2-propanol Solutions Using the pH Method. <i>Industrial & Engineering Chemistry Research</i> , 2015 , 54, 4709-4716	3,9 20
1242	Polymeric membranes for the purification of hydrogen. 2015 , 419-443	5
1241	Towards enhanced CO ₂ selectivity of the PIM-1 membrane by blending with polyethylene glycol. 2015 , 493, 147-155	64

1240	Gas Permeation Properties of Soluble Aromatic Polyimides Based on 4-Fluoro-4,4'-Diaminotriphenylmethane. 2015 , 8, 1951-1965	24
1239	Novel reverse-selective poly(2,5-benzimidazole) derivatives for membrane-based gas separation. 2015 , 27, 135-144	3
1238	Membrane gas dehydration in a pressure-electric coupled field. 2015 , 493, 444-451	3
1237	A review on nanomechanical resonators and their applications in sensors and molecular transportation. 2015 , 2, 021301	75
1236	Experimental and Numerical Investigation of La ₂ NiO ₄ Membranes for Oxygen Separation: Geometry Optimization and Model Validation. 2015 , 137,	9
1235	High purification of gases by diffusion through polymer membranes. 2015 , 55, 259-275	16
1234	Thin-skinned intrinsically defect-free asymmetric mono-esterified hollow fiber precursors for crosslinkable polyimide gas separation membranes. 2015 , 493, 252-262	29
1233	High-performance multilayer composite membranes with mussel-inspired polydopamine as a versatile molecular bridge for CO ₂ separation. 2015 , 7, 15481-93	88
1232	Gas Transport Coefficients of Phthalide-Containing High-Tg Glassy Polymers Determined by Gas-Flux and NMR Measurements. 2015 , 48, 2585-2592	6
1231	Novel piperazinium-mediated crosslinked polyimide membranes for high performance CO ₂ separation. 2015 , 487, 90-98	19
1230	Experimental measurement and thermodynamic modelling of phase equilibria of semi-clathrate hydrates of (CO ₂ + tetra-n-butyl-ammonium bromide) aqueous solution. 2015 , 87, 122-128	16
1229	Polymeric films based on blends of 6FDA/FPDA polyimide plus several copolyfluorenes for CO ₂ separation. 2015 , 5, 41497-41505	8
1228	Experimental study on the capture of CO ₂ from flue gas using adsorption combined with membrane separation. 2015 , 37, 182-190	15
1227	MOF-mixed matrix membranes: Precise dispersion of MOF particles with better compatibility via a particle fusion approach for enhanced gas separation properties. 2015 , 492, 21-31	135
1226	Two-dimensional graphene-like C ₂ N: an experimentally available porous membrane for hydrogen purification. 2015 , 17, 15115-8	84
1225	Gas Separation Membrane Materials and Structures. 2015 , 37-192	8
1224	Application of Gas Separation Membranes. 2015 , 241-287	5
1223	Gas Separation Membranes. 2015 ,	97

1222	Cryogenic air separation at low pressure using MFI membranes. 2015 , 487, 135-140	10
1221	Composite-alumina-carbon molecular sieve membranes prepared from novolac resin and boehmite. Part I: Preparation, characterization and gas permeation studies. 2015 , 40, 5653-5663	35
1220	Novel pyrrolidinium-based polymeric ionic liquids with cyano counter-anions: High performance membrane materials for post-combustion CO ₂ separation. 2015 , 483, 155-165	72
1219	Pebax [®] /PAN hollow fiber membranes for CO ₂ /CH ₄ separation. 2015 , 94, 53-61	43
1218	Mixed matrix membranes composed of sulfonated poly(ether ether ketone) and a sulfonated metal-organic framework for gas separation. 2015 , 488, 67-78	79
1217	Thermally Rearranged Poly(benzoxazole-co-imide) Membranes with Superior Mechanical Strength for Gas Separation Obtained by Tuning Chain Rigidity. 2015 , 48, 2194-2202	87
1216	Product analysis of methane activation using noble gases in a non-thermal plasma. 2015 , 130, 101-108	20
1215	Mesoporous KIT-6 silica/polydimethylsiloxane (PDMS) mixed matrix membranes for gas separation. 2015 , 3, 8650-8658	45
1214	H ₂ purification by functionalized graphdiyne: Role of nitrogen doping. 2015 , 3, 6767-6771	56
1213	Estimations of effective diffusivity of hollow fiber mixed matrix membranes. 2015 , 495, 269-275	9
1212	Preparation and properties of polybenzoxazole-based gas separation membranes: A comparative study between thermal rearrangement (TR) of poly(hydroxyimide) and thermal cyclodehydration of poly(hydroxyamide). 2015 , 78, 81-93	28
1211	Enhancing Separation and Mechanical Performance of Hybrid Membranes through Nanoparticle Surface Modification. 2015 , 4, 1239-1243	20
1210	Inhibition effect of a non-permeating component on gas permeability of nanoporous graphene membranes. 2015 , 17, 23619-26	35
1209	Highly Permeable Benzotriptycene-Based Polymer of Intrinsic Microporosity. 2015 , 4, 912-915	130
1208	Ionic group-mediated crosslinked polyimide membranes for enhanced CO ₂ separation. 2015 , 5, 69907-69914	15
1207	Gas Separation Membranes Derived from High-Performance Immiscible Polymer Blends Compatibilized with Small Molecules. 2015 , 7, 18618-27	27
1206	Feasibility of Using Adsorbent-Coated Microchannels for Pressure Swing Adsorption: Parametric Studies on Depressurization. <i>Industrial & Engineering Chemistry Research</i> , 2015 , 54, 10103-10114	3.9 13
1205	Ultrathin membranes of single-layered MoS ₂ nanosheets for high-permeance hydrogen separation. 2015 , 7, 17649-52	106

1204	Separation of Hydrogen Gas from Coal Gas by Graphene Nanopores. 2015 , 119, 25559-25565	36
1203	Review on the potential technologies for aromas recovery from food industry flue gas. 2015 , 46, 68-74	16
1202	Graphene oxide-embedded nanocomposite membrane for solvent resistant nanofiltration with enhanced rejection ability. 2015 , 138, 227-238	92
1201	Enhanced CO ₂ separation performance of polymer composite membranes through the synergistic effect of 1,3,5-benzenetricarboxylic acid. 2015 , 279, 273-276	13
1200	Recent developments in membranes for efficient hydrogen purification. 2015 , 495, 130-168	179
1199	Separations of binary mixtures of CO ₂ /CH ₄ and CO ₂ /N ₂ with mixed-matrix membranes containing Zn(pyrz) ₂ (SiF ₆) metal-organic framework. 2015 , 495, 169-175	46
1198	Relationship between polymer/filler interfaces in separation layers and gas transport properties of mixed matrix composite membranes. 2015 , 495, 252-268	59
1197	Thermally rearranged polybenzoxazoles and poly(benzoxazole-co-imide)s from ortho-hydroxyamine monomers for high performance gas separation membranes. 2015 , 493, 329-339	31
1196	Mixed matrix membranes consisting of SEBS block copolymers and size-controlled ZIF-8 nanoparticles for CO ₂ capture. 2015 , 495, 479-488	73
1195	Hydrophobic pillared square grids for selective removal of CO ₂ from simulated flue gas. 2015 , 51, 15530-3	95
1194	Process intensification for post-combustion CO ₂ capture with chemical absorption: A critical review. 2015 , 158, 275-291	239
1193	Mixed matrix membranes composed of two-dimensional metal-organic framework nanosheets for pre-combustion CO ₂ capture: a relationship study of filler morphology versus membrane performance. 2015 , 3, 20801-20810	101
1192	Simulation and feasibility study of using thermally rearranged polymeric hollow fiber membranes for various industrial gas separation applications. 2015 , 496, 229-241	18
1191	Molecular Simulation Studies of the Diffusion of Methane, Ethane, Propane, and Propylene in ZIF-8. 2015 , 119, 27028-27037	74
1190	Influence of Poly(ethylene glycol) Segment Length on CO ₂ Permeation and Stability of PolyActive Membranes and Their Nanocomposites with PEG POSS. 2015 , 7, 12289-98	46
1189	Gas transport properties of reverse-selective poly(ether-b-amide ₆)/[Emim][BF ₄] gel membranes for CO ₂ /light gases separation. 2015 , 476, 286-302	105
1188	Cyclic tertiary amino group containing fixed carrier membranes for CO ₂ separation. 2015 , 476, 171-181	28
1187	Membrane-based carbon capture from flue gas: a review. 2015 , 103, 286-300	201

1186	Decoration of porous ceramic substrate with pencil for enhanced gas separation performance of carbon membrane. 2015 , 84, 151-159	21
1185	Metal-organic framework membranes on the inner-side of a polymeric hollow fiber by microfluidic synthesis. 2015 , 476, 277-285	96
1184	Aligned macroporous monoliths with intrinsic microporosity via a frozen-solvent-templating approach. 2015 , 51, 1717-20	25
1183	Flat sheet membrane contactor (FSMC) for CO ₂ separation using aqueous amine solutions. 2015 , 123, 255-264	23
1182	Selectivity trend of gas separation through nanoporous graphene. 2015 , 224, 2-6	77
1181	Predictive calculation of hydrogen and helium solubility in glassy and rubbery polymers. 2015 , 475, 110-121	22
1180	Behaviour of 1-hexyl-3-methylimidazolium chloride-supported ionic liquid membranes in the permeation of CO ₂ , H ₂ , CO and N ₂ single and mixed gases. 2015 , 56, 3640-3646	3
1179	Rigid and microporous polymers for gas separation membranes. 2015 , 43, 1-32	304
1178	Enhanced CO ₂ separation properties by incorporating poly(ethylene glycol)-containing polymeric submicrospheres into polyimide membrane. 2015 , 473, 310-317	42
1177	Preparation of dense gelatin membranes by combining temperature induced gelation and dry-casting. 2015 , 473, 45-53	17
1176	Functionalization of POSS nanoparticles and fabrication of block copolymer nanocomposite membranes for CO ₂ separation. 2015 , 86, 125-133	24
1175	PIM-1/graphene composite: A combined experimental and molecular simulation study. 2015 , 209, 126-134	43
1174	Gas sorption and transport in thermally rearranged polybenzoxazole membranes derived from polyhydroxylamides. 2015 , 474, 122-131	33
1173	Highly gas permeable aromatic polyamides containing adamantane substituted triphenylamine. 2015 , 474, 20-31	45
1172	ZIF-8/PDMS mixed matrix membranes for propane/nitrogen mixture separation: Experimental result and permeation model validation. 2015 , 474, 103-113	107
1171	The Comparison of Membrane Blocking Process and Yeast Membrane Filtration Data. 2016 ,	
1170	Mixed Matrix Membranes for O ₂ /N ₂ Separation: The Influence of Temperature. 2016 , 6,	22
1169	Proof-of-Concept Numerical Study for NO _x Reduction in Diesel Engines Using Enriched Nitrogen and Enriched Oxygen. 2016 ,	

1168	Gas-liquid contactors in liquid absorbent-based PCC. 2016 , 341-363	2
1167	Vapor Phase Fabrication of Hydrophilic and Hydrophobic Asymmetric Polymer Membranes. 2016 , 301, 1037-1043	11
1166	Metal Organic Framework Crystals in Mixed-Matrix Membranes: Impact of the Filler Morphology on the Gas Separation Performance. 2016 , 26, 3154-3163	185
1165	A molecular-level computational study of the diffusion and solubility of water and oxygen in carbonaceous polyethylene nanocomposites. 2016 , 54, 589-602	7
1164	Hydrogen Separation with Polymeric Membranes. 2016 , 509-542	3
1163	Effect of MIL-53 on phase inversion and gas separation performance of mixed matrix hollow fiber membranes. 2016 , 6, 69124-69134	30
1162	Asymmetric polysilazane-derived ceramic structures with multiscalar porosity for membrane applications. 2016 , 232, 196-204	19
1161	Role of Facilitated Transport Membranes and Composite Membranes for Efficient CO ₂ Capture [A Review]. 2016 , 3, 68-85	65
1160	Investigation of Carbon Nanotubes in Mixed Matrix Membranes for Gas Separation: A Review. 2016 , 3, 276-298	30
1159	Processing and Characterizations: State-of-the-Art and New Challenges. 2016 , 1-26	
1158	Membranes for CO ₂ Separation. 2016 , 237-292	1
1157	Gas-liquid membrane contactors for carbon dioxide capture from gaseous streams. 2016 , 56, 889-914	21
1156	Thermally induced phase separation and electrospinning methods for emerging membrane applications: A review. 2016 , 62, 461-490	191
1155	Advances in high permeability polymer-based membrane materials for CO ₂ separations. 2016 , 9, 1863-1890	475
1154	Synthesis, characterization and gas separation properties of novel copolyimide membranes based on flexible etheric- <i>l</i> iphatic moieties. 2016 , 6, 35751-35763	17
1153	Enhancing the Gas Permeability of Tröger's Base Derived Polyimides of Intrinsic Microporosity. 2016 , 49, 4147-4154	88
1152	Upgrading of biogas to bio-methane with chemical absorption process: simulation and environmental impact. 2016 , 131, 364-375	74
1151	TEA incorporated CS blend composite membrane for high CO ₂ separation performance. 2016 , 6, 27016-27019	10

1150	Static in-situ hydrothermal synthesis of small pore zeolite SSZ-16 (AFX) using heated and pre-aged synthesis mixtures. 2016 , 228, 107-115	8
1149	Environmental application of nanotechnology: air, soil, and water. 2016 , 23, 13754-88	179
1148	Pressure swing adsorption/membrane hybrid processes for hydrogen purification with a high recovery. 2016 , 10, 255-264	38
1147	Resonant soft X-ray scattering for polymer materials. 2016 , 81, 555-568	71
1146	Recent development on the effect of water/moisture on the performance of zeolite membrane and MMMs containing zeolite for gas separation; review. 2016 , 6, 42943-42961	29
1145	Finely Tuning the Free Volume Architecture in Iptycene-Containing Polyimides for Highly Selective and Fast Hydrogen Transport. 2016 , 49, 3395-3405	46
1144	The enhancement of chain rigidity and gas transport performance of polymers of intrinsic microporosity via intramolecular locking of the spiro-carbon. 2016 , 52, 6553-6	43
1143	Simulation studies of the separation of Kr-85 radionuclide gas from nitrogen and oxygen across nanoporous graphene membranes in different pore configurations. 2016 , 131, 1	8
1142	A Molecular Dynamics Simulation Study on Separation Selectivity of CO ₂ /CH ₄ Mixture in Mesoporous Carbons. 2016 , 86, 144-149	10
1141	Facile Preparation of Graphene Oxide Membranes for Gas Separation. 2016 , 28, 2921-2927	158
1140	Encyclopedia of Membranes. 2016 , 11-13	
1139	Encyclopedia of Membranes. 2016 , 1005-1006	
1138	Advanced Materials and Membranes for Gas Separations: The UOP Approach. 2016 , 119-135	4
1137	A highly permeable graphene oxide membrane with fast and selective transport nanochannels for efficient carbon capture. 2016 , 9, 3107-3112	155
1136	Polymeric Membranes for Gas and Vapor Separations. 2016 , 89-158	10
1135	Encyclopedia of Membranes. 2016 , 985-987	
1134	Encyclopedia of Membranes. 2016 , 20-22	
1133	Encyclopedia of Membranes. 2016 , 50-52	

- 1132 Separation of carbon dioxide from flue gas by mixed matrix membranes using dual phase microporous polymeric constituents. **2016**, 52, 11768-11771 42
- 1131 Nanostructured Polymer Membranes: Applications, State-of-the-Art, New Challenges and Opportunities. **2016**, 1-25 1
- 1130 Encyclopedia of Membranes. **2016**, 352-354
- 1129 Encyclopedia of Membranes. **2016**, 357-358
- 1128 Encyclopedia of Membranes. **2016**, 48-49
- 1127 Encyclopedia of Membranes. **2016**, 916-918
- 1126 Bioseparations Using Integrated Membrane Processes. **2016**, 23-34
- 1125 Encyclopedia of Membranes. **2016**, 937-939
- 1124 Encyclopedia of Membranes. **2016**, 933-935
- 1123 Encyclopedia of Membranes. **2016**, 910-911
- 1122 Modeling, Simulation, and Economic Evaluation of a Hybrid CO₂ Capture Process for Oxidative Coupling of Methane. **2016**, 1231-1236
- 1121 Molecularly Designed Stabilized Asymmetric Hollow Fiber Membranes for Aggressive Natural Gas Separation. **2016**, 55, 13754-13758 22
- 1120 The effect of humidity on the CO₂/N₂ separation performance of copolymers based on hard polyimide segments and soft polyether chains: Experimental and modeling. **2016**, 1, 201-210 9
- 1119 Nanostructured Mixed Matrix Membranes from Supramolecular Assembly of Block Copolymer Nanoparticles and Iron Oxide Nanoparticles. **2016**, 49, 7908-7916 26
- 1118 Molecularly Designed Stabilized Asymmetric Hollow Fiber Membranes for Aggressive Natural Gas Separation. **2016**, 128, 13958-13962 7
- 1117 Encyclopedia of Membranes. **2016**, 436-436
- 1116 Process Intensification in Process Retrofitting and Revamping. **2016**, 129-165
- 1115 Separation of carbon dioxide and nitrogen gases through modified boron nitride nanosheets as a membrane: insights from molecular dynamics simulations. **2016**, 6, 94911-94920 30

1114	Techniques to manage geometry characteristics of hollow-fiber membranes. 2016 , 50, 316-324	8
1113	Oxygen separation membrane based on facilitated transport using cobalt tetraphenylporphyrin-coated hollow fiber composites. 2016 , 185, 133-141	11
1112	Membrane Reactors. 2016 , 1-21	1
1111	Amine-Appended Hierarchical Ca-A Zeolite for Enhancing CO /CH Selectivity of Mixed-Matrix Membranes. 2016 , 17, 3165-3169	24
1110	Encyclopedia of Membranes. 2016 , 24-24	
1109	Encyclopedia of Membranes. 2016 , 49-49	
1108	Encyclopedia of Membranes. 2016 , 285-285	
1107	Encyclopedia of Membranes. 2016 , 901-902	0
1106	Encyclopedia of Membranes. 2016 , 3-4	1
1105	Recent advances in multi-layer composite polymeric membranes for CO ₂ separation: A review. 2016 , 1, 102-128	157
1104	Pebax-1657 mixed matrix membrane containing surface modified multi-walled carbon nanotubes for gas separation. 2016 , 6, 79563-79577	57
1103	Nanoconfined Zeolitic Imidazolate Framework Membranes with Composite Layers of Nearly Zero Thickness. 2016 , 8, 21979-83	46
1102	Encyclopedia of Membranes. 2016 , 10-11	1
1101	Analysis of the Influence of CMS Variable Percentages on Pure PES Membrane Gas Separation Performance. 2016 , 148, 1206-1212	16
1100	Encyclopedia of Membranes. 2016 , 957-957	
1099	Encyclopedia of Membranes. 2016 , 386-387	
1098	Encyclopedia of Membranes. 2016 , 1-2	
1097	Preparation and characterization of an oxygen permselective polydimethylsiloxane hollow fibre membrane. 2016 , 6, 88943-88953	12

1096	Microporous polymers from superacid catalyzed polymerizations of fluoroketones with p-quaterphenyl: Synthesis, characterization, and gas sorption properties. 2016 , 102, 221-230	5
1095	Methylcellulose-assisted synthesis of a compact and thin NaA zeolite membrane. 2016 , 6, 71863-71866	8
1094	Encyclopedia of Membranes. 2016 , 336-338	
1093	Encyclopedia of Membranes. 2016 , 473-474	0
1092	Hydrogen separation by porous phosphorene: A periodical DFT study. 2016 , 41, 23067-23074	20
1091	Encyclopedia of Membranes. 2016 , 487-488	
1090	Encyclopedia of Membranes. 2016 , 507-508	0
1089	Encyclopedia of Membranes. 2016 , 2-3	
1088	An investigation of blended polymeric membranes and their gas separation performance. 2016 , 6, 102671-102679	7
1087	Integration of multi-stage membrane carbon capture processes to coal-fired power plants using highly permeable polymers. 2016 , 1, 211-221	13
1086	Encyclopedia of Membranes. 2016 , 953-953	
1085	Encyclopedia of Membranes. 2016 , 132-133	
1084	Fabrication of reduced graphene oxide membranes for highly efficient water desalination. 2016 , 6, 101948-101952	3
1083	Encyclopedia of Membranes. 2016 , 110-111	
1082	Encyclopedia of Membranes. 2016 , 58-59	
1081	Encyclopedia of Membranes. 2016 , 94-96	1
1080	Molecular Dynamics Simulations of CO ₂ /N ₂ Separation through Two-Dimensional Graphene Oxide Membranes. 2016 , 120, 26061-26066	48
1079	Synthesis and gas transport properties of novel functional polyimide/ZnO nanocomposite thin film membranes. 2016 , 6, 106778-106789	23

1078 Encyclopedia of Membranes. **2016**, 8-8

1077 Modulare Verfahrenstechnik: Apparateentwicklung flü wandlungsffige Produktionssysteme. **2016**, 88, 1444-1454 6

1076 Hypercrosslinked Additives for Ageless Gas-Separation Membranes. **2016**, 128, 2038-2041 16

1075 Design and Assessment of a Membrane and Absorption Based Carbon Dioxide Removal Process for Oxidative Coupling of Methane. *Industrial & Engineering Chemistry Research*, **2016**, 55, 7473-7483 3-9 15

1074 Stabilization of gas transport properties of PTMSP with porous aromatic framework: Effect of annealing. **2016**, 517, 80-90 39

1073 Commensurate CO₂ Capture, and Shape Selectivity for HCCH over H₂CCH₂, in Zigzag Channels of a Robust Cu(I)(CN)(L) Metal-Organic Framework. **2016**, 55, 6195-200 17

1072 Graphene-Based Solar Cells. **2016**, 377-402

1071 Dynamics of effusive and diffusive gas separation on pillared graphene. **2016**, 18, 17018-23 12

1070 Pd-doped organosilica membrane with enhanced gas permeability and hydrothermal stability for gas separation. **2016**, 51, 6275-6286 26

1069 Bifunctionalized Intrinsically Microporous Polyimides with Simultaneously Enhanced Gas Permeability and Selectivity. **2016**, 37, 900-4 23

1068 Predicting the solution morphology of a sulfonated pentablock copolymer in binary solvent mixtures. **2016**, 54, 254-262 14

1067 Interfacial Design of Mixed Matrix Membranes for Improved Gas Separation Performance. **2016**, 28, 3399-405 243

1066 Hypercrosslinked Additives for Ageless Gas-Separation Membranes. **2016**, 55, 1998-2001 81

1065 Gas permeation properties of polymer membranes containing pendant tertiary amine groups. **2016**, 28, 1005-1014 8

1064 Current Development and Challenges of Mixed Matrix Membranes for CO₂/CH₄ Separation. **2016**, 45, 321-344 86

1063 Gas Sorption, Diffusion, and Permeation in Nafion. **2016**, 49, 280-286 69

1062 Surface modification in inorganic filler of mixed matrix membrane for enhancing the gas separation performance. **2016**, 32, 33

1061 Solubility and viscosity for CO₂ capture process using MEA promoted DEAE aqueous solution. **2016**, 95, 136-141 30

1060	PEG-imidazolium-functionalized 6FDA-urene polyimide as a novel polymeric membrane for enhanced CO ₂ separation. 2016 , 6, 31083-31091	28
1059	Amphiphilic Graft Copolymer Nanospheres: From Colloidal Self-Assembly to CO ₂ Capture Membranes. 2016 , 8, 9454-61	8
1058	ZIF-67 Framework: A Promising New Candidate for Propylene/Propane Separation. Experimental Data and Molecular Simulations. 2016 , 120, 8116-8124	86
1057	Challenges and recent advances in MOF-polymer composite membranes for gas separation. 2016 , 3, 896-909	205
1056	High-performance intrinsically microporous dihydroxyl-functionalized triptycene-based polyimide for natural gas separation. 2016 , 91, 128-135	52
1055	Polyaniline/polybenzimidazole blends: Characterisation of its physico-chemical properties and gas separation behaviour. 2016 , 77, 98-113	22
1054	Mixed Matrix Membranes (MMMs) Comprising Exfoliated 2D Covalent Organic Frameworks (COFs) for Efficient CO ₂ Separation. 2016 , 28, 1277-1285	404
1053	Synthesis and characterization of composite membranes made of graphene and polymers of intrinsic microporosity. 2016 , 102, 357-366	28
1052	The influence of few-layer graphene on the gas permeability of the high-free-volume polymer PIM-1. 2016 , 374,	42
1051	Treatment of Biogas for Feeding High Temperature Fuel Cells. 2016 ,	13
1050	The Use of Biogas in MCFCs and SOFCs Technology: Adsorption Processes and Adsorbent Materials for Removal of Noxious Compounds. 2016 , 95-130	
1049	Hydrothermally stable Zr-doped organosilica membranes for H ₂ /CO ₂ separation. 2016 , 224, 277-284	28
1048	Improvement of H ₂ /CH ₄ Separation Performance of PES Hollow Fiber Membranes by Addition of MWCNTs into Polymeric Matrix. 2016 , 55, 1155-1166	11
1047	Pseudopolymorphic seeding for the rational synthesis of hybrid membranes with a zeolitic imidazolate framework for enhanced molecular separation performance. 2016 , 4, 4172-4179	30
1046	New quantum spin Hall insulator in two-dimensional MoS ₂ with periodically distributed pores. 2016 , 8, 4915-21	19
1045	Mixed Matrix Membranes Containing UiO-66(Hf)-(OH) ₂ Metal-Organic Framework Nanoparticles for Efficient H ₂ /CO ₂ Separation. <i>Industrial & Engineering Chemistry Research</i> , 2016 , 55, 7933-7940	3-9 31
1044	Microporous PVDF membranes via thermally induced phase separation (TIPS) and stretching methods. 2016 , 509, 94-104	99
1043	Molecular Design of High CO ₂ Reactivity and Low Viscosity Ionic Liquids for CO ₂ Separative Facilitated Transport Membranes. <i>Industrial & Engineering Chemistry Research</i> , 2016 , 55, 2821-2830	3-9 21

1042	The influence of purifier models on hydrogen network optimization: Insights from a case study. 2016 , 41, 5243-5249	17
1041	Ageing of polyvinylidene fluoride hollow fiber membranes in sodium hypochlorite solutions. 2016 , 505, 174-184	25
1040	Ionic liquid-based materials: a platform to design engineered CO2 separation membranes. 2016 , 45, 2785-824	271
1039	Friction factor in nanochannel flows. 2016 , 20, 1	40
1038	High-performance SPEEK/amino acid salt membranes for CO2 separation. 2016 , 6, 2252-2258	18
1037	Polymer membranes for acid gas removal from natural gas. 2016 , 158, 333-356	145
1036	MOF/polymer enhanced compatibility: post-annealed zeolite imidazolate framework membranes inside polyimide hollow fibers. 2016 , 6, 5881-5889	40
1035	High solvent resistance PTFPMS/PEI hollow fiber composite membrane for gas separation. 2016 , 360, 164-173	25
1034	Ex-Situ Remediation Technologies for Environmental Pollutants: A Critical Perspective. 2016 , 236, 117-92	48
1033	Highly selective mixed-matrix membranes with layered fillers for molecular separation. 2016 , 497, 394-401	15
1032	Charge-modulated permeability and selectivity in graphdiyne for hydrogen purification. 2016 , 42, 573-579	18
1031	Multi-objective optimisation of a hybrid vacuum swing adsorption and low-temperature post-combustion CO2 capture. 2016 , 111, 193-203	34
1030	Poly(amide-6-b-ethylene oxide)/[Bmim][Tf2N] blend membranes for carbon dioxide separation. 2016 , 25, 122-130	36
1029	Thermally rearranged poly(benzoxazole-co-imide) hollow fiber membranes for CO2 capture. 2016 , 498, 125-134	40
1028	Mixed-matrix membranes of zeolitic imidazolate framework (ZIF-8)/Matrimid nanocomposite: Thermo-mechanical stability and viscoelasticity underpinning membrane separation performance. 2016 , 498, 276-290	112
1027	CO2-Tolerant SrFe0.8Nb0.2O3/Carbonate Dual-Phase Multichannel Hollow Fiber Membrane for CO2 Capture. <i>Industrial & Engineering Chemistry Research</i> , 2016 , 55, 3300-3307	3-9 15
1026	Combination of ionic liquids with membrane technology: A new approach for CO2 separation. 2016 , 497, 1-20	353
1025	Resistance to the transport of H2 through the external surface of as-made and modified silicalite-1 (MFI). 2016 , 220, 290-297	15

1024	Reviews of Environmental Contamination and Toxicology Volume 236. 2016 ,	2
1023	Hydrogen energy future with formic acid: a renewable chemical hydrogen storage system. 2016 , 6, 12-40	333
1022	Mixed matrix membranes of Pebax1657 loaded with iron benzene-1,3,5-tricarboxylate for gas separation. 2017 , 38, 1363-1370	9
1021	Natural Gas Dehydration with Ionic Liquids. 2017 , 31, 1429-1439	47
1020	Hydrophilicity effect on CO ₂ /CH ₄ separation using carbon nanotube membranes: insights from molecular simulation. 2017 , 43, 502-509	5
1019	Patching NaA zeolite membrane by adding methylcellulose into the synthesis gel. 2017 , 530, 240-249	13
1018	Synthesis and optimization of membrane cascade for gas separation via mixed-integer nonlinear programming. 2017 , 63, 1989-2006	15
1017	On the Structure-Property Relationships of Cation-Exchanged ZK-5 Zeolites for CO Adsorption. 2017 , 10, 946-957	29
1016	CO ₂ /CH ₄ separation performance of ionic-liquid-based epoxy-amine ion gel membranes under mixed feed conditions relevant to biogas processing. 2017 , 528, 64-71	50
1015	Synthesis and adsorption study of hyper-crosslinked styrene-based nanocomposites containing multi-walled carbon nanotubes. 2017 , 7, 6865-6874	27
1014	Blend membranes of poly(amide-6-b-ethylene oxide)/[Emim][PF ₆] for CO ₂ separation. 2017 , 179, 309-319	16
1013	Amine-functionalized (Al) MIL-53/VTEC mixed-matrix membranes for H ₂ /CO ₂ mixture separations at high pressure and high temperature. 2017 , 530, 201-212	22
1012	Polycondensation Materials Containing Bulky Side Groups. 2017 , 223-269	4
1011	Strained graphitic carbon nitride for hydrogen purification. 2017 , 528, 201-205	16
1010	Systematic optimization of H ₂ recovery from water splitting process using membranes and N ₂ diluent. 2017 , 42, 6000-6011	10
1009	Screening tests of aqueous alkanolamine solutions based on primary, secondary, and tertiary structure for blended aqueous amine solution selection in post combustion CO ₂ capture. 2017 , 170, 574-582	61
1008	Multiscale modeling of a gas separation device based on effect of thermal transpiration in the membrane. 2017 , 180, 58-68	13
1007	Ion-Gated Gas Separation through Porous Graphene. 2017 , 17, 1802-1807	84

1006	Permselectivity Bench to Study Permatation Along Porous Tube. 2017,		3
1005	Modular Process Engineering: Development of Apparatuses for Transformable Production Systems. 2017, 4, 60-70		4
1004	Structure Manipulation in Triptycene-Based Polyimides through Main Chain Geometry Variation and Its Effect on Gas Transport Properties. <i>Industrial & Engineering Chemistry Research</i> , 2017, 56, 1868-1879	3.9	25
1003	Molecular mobility and gas transport properties of nanocomposites based on PIM-1 and polyhedral oligomeric phenethyl-silsesquioxanes (POSS). 2017, 529, 274-285		20
1002	Oxy-fuel combustion technology: current status, applications, and trends. 2017, 41, 1670-1708		54
1001	PEG-imidazolium-incorporated polyimides as high-performance CO ₂ -selective polymer membranes: The effects of PEG-imidazolium content. 2017, 179, 283-290		21
1000	Defect-free PIM-1 hollow fiber membranes. 2017, 530, 33-41		74
999	An Untrodden Path: Versatile Fabrication of Self-Supporting Polymer-Stabilized Percolation Membranes (PSPMs) for Gas Separation. 2017, 23, 6522-6526		6
998	Polymeric membrane materials selection for high-pressure CO ₂ removal from natural gas. 2017, 24, 1		15
997	Predictive calculations of gas solubility and permeability in glassy polymeric membranes: An overview. 2017, 11, 405-413		15
996	Hydrogen purification performance of a nanoporous hexagonal boron nitride membrane: molecular dynamics and first-principle simulations. 2017, 19, 12032-12044		12
995	Scientific and engineering principles of membrane gas separation systems development. 2017, 51, 38-44		3
994	Facile hydrogen/nitrogen separation through graphene oxide membranes supported on YSZ ceramic hollow fibers. 2017, 535, 143-150		60
993	The Use of Iptycenes in Rational Macromolecular Design for Gas Separation Membrane Applications. <i>Industrial & Engineering Chemistry Research</i> , 2017, 56, 4220-4236	3.9	54
992	Polymers of intrinsic microporosity/metalorganic framework hybrid membranes with improved interfacial interaction for high-performance CO ₂ separation. 2017, 5, 10968-10977		79
991	Effect of a heat pretreatment on the structure and properties of carbon supports for carbon membranes. 2017, 95, 2112-2119		5
990	Increasing both selectivity and permeability of mixed-matrix membranes: Sealing the external surface of porous MOF nanoparticles. 2017, 535, 350-356		58
989	Engineering microporous organic framework membranes for CO ₂ separations. 2017, 2, 182-190		11

988	Membrane material based on octyl-substituted polymethylsiloxane for separation of C3/C1 hydrocarbons. 2017 , 57, 334-340		14
987	Synthesis, characterization, and gas transport properties of new semifluorinated poly(ether imide)s containing cardo moiety. 2017 , 134, 45213		6
986	Bio-methane from an-aerobic digestion using activated carbon adsorption. 2017 , 46, 33-40		15
985	Understanding the impact of membrane properties and transport phenomena on the energetic performance of membrane distillation desalination. 2017 , 539, 458-474		86
984	Triptycene-based copolyimides with tailored backbone rigidity for enhanced gas transport. 2017 , 126, 314-323		18
983	The effects of wall roughness on the methane flow in nano-channels using non-equilibrium multiscale molecular dynamics simulation. 2017 , 21, 1		5
982	Determination of Gas Transport Coefficients of Mixed Gases in 6FDA-TMPDA Polyimide by NMR Spectroscopy. 2017 , 50, 3590-3597		10
981	Thermally treated polyaniline/polybenzimidazole blend membranes: Structural changes and gas transport properties. 2017 , 537, 315-322		20
980	Experimental and computational analysis of carbon molecular sieve membrane formation upon polyetherimide pyrolysis. 2017 , 119, 21-29		24
979	Feasibility of Temperature Swing Adsorption in Adsorbent-Coated Microchannels for Natural Gas Purification. <i>Industrial & Engineering Chemistry Research</i> , 2017 , 56, 5403-5416	3-9	15
978	An operando DRIFTS-MS study of NH ₃ removal by supported ionic liquid phase (SILP) materials. 2017 , 174, 245-250		5
977	CO capture in ionic liquid 1-alkyl-3-methylimidazolium acetate: a concerted mechanism without carbene. 2017 , 19, 1361-1368		21
976	Molecular dynamics simulation and Monte Carlo study of transport and structural properties of PEBA 1657 and 2533 membranes modified by functionalized POSS-PEG material. 2017 , 241, 646-653		11
975	Description of gas transport in perfluoropolymer/SAPO-34 mixed matrix membranes using four-resistance model. 2017 , 185, 160-174		11
974	Sulfonated polyimide/ionic liquid composite membranes for carbon dioxide separation. 2017 , 49, 671-676		22
973	Ultrathin mixed matrix membranes containing two-dimensional metal-organic framework nanosheets for efficient CO ₂ /CH ₄ separation. 2017 , 539, 213-223		116
972	Fabrication, Pressure Testing, and Nanopore Formation of Single-Layer Graphene Membranes. 2017 , 121, 14312-14321		26
971	Vapor-phase synthesis of poly(p-xylene) membranes for gas separations. 2017 , 539, 101-107		6

970	Synthesis, characterization, and CO ₂ separation performance of polyether sulfone/[EMIM][Tf ₂ N] ionic liquid-polymeric membranes (ILPMs). 2017 , 54, 98-106	37
969	Gas Selective Ultrathin Organic Covalent Networks Synthesized by iPECVD: Does the Central Metal Ion Matter?. 2017 , 27, 1606652	5
968	Enhanced PIM-1 membrane gas separation selectivity through efficient dispersion of functionalized POSS fillers. 2017 , 539, 178-186	52
967	Nanostructured Materials for Next-Generation Energy Storage and Conversion. 2017 ,	4
966	Synthesis and gas permeation properties of a novel thermally-rearranged polybenzoxazole made from an intrinsically microporous hydroxyl-functionalized triptycene-based polyimide precursor. 2017 , 121, 9-16	41
965	Enhancement of synthesis gas and methanol production by flare gas recovery utilizing a membrane based separation process. 2017 , 166, 186-201	35
964	Porous Structure Design of Polymeric Membranes for Gas Separation. 2017 , 1, 1600051	11
963	Highly efficient recovery of propane by mixed-matrix membrane via embedding functionalized graphene oxide nanosheets into polydimethylsiloxane. 2017 , 63, 3501-3510	20
962	Biobased Polycarbonate as a Gas Separation Membrane and Breathing Glass For Energy Saving Applications. 2017 , 2, 1700026	34
961	Mechanical behavior of MWCNTs based mixed-matrix polymeric and carbon hollow fiber membranes. 2017 , 183, 21-31	10
960	Knudsen effusion through polymer-coated three-layer porous graphene membranes. 2017 , 28, 184003	23
959	Homopolymer and multi-block Diels-Alder polyphenylenes: Synthesis, physical properties, X-ray diffraction, and gas transport. 2017 , 89, 301-310	8
958	Agent-based modeling Proof of concept application to membrane separation and hydrogen storage in a MOF. 2017 , 107, 151-157	4
957	Polyurethanes containing Poly(arylene ether sulfone) and Poly(ethylene oxide) segments for gas separation membranes. 2017 , 118, 256-267	16
956	Concentration gradient driven molecular dynamics: a new method for simulations of membrane permeation and separation. 2017 , 8, 3858-3865	43
955	Gas sensors based on membrane diffusion for environmental monitoring. 2017 , 243, 566-578	32
954	Highly sensitive poisoning-resistant optical carbon dioxide sensors for environmental monitoring. 2017 , 9, 55-65	17
953	Graphene oxide membranes supported on the ceramic hollow fibre for efficient H ₂ recovery. 2017 , 25, 752-759	31

952	Highly crosslinked, chlorine tolerant polymer network entwined graphene oxide membrane for water desalination. 2017 , 5, 1533-1540	67
951	Mixed Matrix Membranes Based on PIMs for Gas Permeation: Principles, Synthesis, and Current Status. 2017 , 204, 295-309	46
950	H ₂ /CH ₄ Gas Separation by Variation in Pore Geometry of Nanoporous Graphene. 2017 , 121, 1904-1909	32
949	Concentrated colloidal solution system for preparation of uniform Zeolite-Y nanocrystals and their gas adsorption properties. 2017 , 241, 274-284	9
948	Membranes for helium recovery: An overview on the context, materials and future directions. 2017 , 176, 335-383	49
947	Investigation of oxygen permeation through disc-shaped BSCF ion transport membrane under reactive conditions. 2017 , 41, 1049-1062	8
946	Utilization of blast furnace flue gas: Opportunities and challenges for polymeric membrane gas separation processes. 2017 , 526, 191-204	32
945	Metamaterial membranes. 2017 , 50, 025104	9
944	Enhanced permeation performance of polyether-polyamide block copolymer membranes through incorporating ZIF-8 nanocrystals. 2017 , 25, 882-891	25
943	Preparation and gas separation performance of mixed-matrix membranes based on triptycene-containing polyimide and zeolite imidazole framework (ZIF-90). 2017 , 131, 209-216	26
942	Fluid flow analysis to describe the permeation process along the length of the porous tube. 2017 , 42, 25531-25543	4
941	A review of the latest development of polyimide based membranes for CO ₂ separations. 2017 , 120, 104-130	78
940	Investigation of the separation of carboxylic acids from aqueous solutions using a pilot scale membrane unit. 2017 , 248, 391-398	11
939	Novel ZIF-300 Mixed-Matrix Membranes for Efficient CO Capture. 2017 , 9, 38575-38583	42
938	Two-dimensional porous polyphthalocyanine (PPc) as an efficient gas-separation membrane for ammonia synthesis. 2017 , 17, 1765-1770	4
937	Humid permeation of CO ₂ and hydrocarbons in Aquivion [®] perfluorosulfonic acid ionomer membranes, experimental and modeling. 2017 , 542, 367-377	18
936	Experimental and Computational Investigation of Gas Separation in Adsorbent-coated Microchannels. 2017 , 173, 588-606	4
935	Supported protic ionic liquid membrane based on 3-(trimethoxysilyl)propan-1-aminium acetate for the highly selective separation of CO ₂ . 2017 , 543, 301-309	52

934	Molecular design of melt-spinnable co-polymers as Si-B-C-N fiber precursors. 2017 , 46, 13510-13523	11
933	Ultrathin Composite Polymeric Membranes for CO /N Separation with Minimum Thickness and High CO Permeance. 2017 , 10, 4014-4017	24
932	Effect of temperature on gas transport properties of supported ionic liquid membranes. 2017 , 57, 770-778	6
931	Synthesis, properties and gas separation performance of poly(arylene ether sulfone) containing imide pendant groups. 2017 , 7, 42468-42475	10
930	Molecular Mobility and Physical Aging of a Highly Permeable Glassy Polynorbornene as Revealed by Dielectric Spectroscopy. 2017 , 6, 813-818	20
929	Recent advances on mixed matrix membranes for CO 2 separation. 2017 , 25, 1581-1597	80
928	Designing an atmosphere controlling hollow fiber membrane system for mango preservation. 2017 , 34, 2019-2026	1
927	WITHDRAWN: Synthesis, characterization of zeolitic imidazolate frameworks 8 (ZIF 8) and carbon molecular sieves (CMS) membranes for gas separation. 2017 ,	
926	New stationary phases for gas chromatography based on polymers with intrinsic porosity. 2017 , 986, 153-160	16
925	Natural gas purification from acid gases using membranes: A review of the history, features, techno-commercial challenges, and process intensification of commercial membranes. 2017 , 120, 105-113	37
924	Facilitated O2 transport membrane containing Co(II)-salen complex-based ionic liquid as O2 carrier. 2017 , 541, 393-402	14
923	Molecular dynamics and Monte Carlo simulation of the structural properties, diffusion and adsorption of poly (amide-6-b-ethylene oxide)/Faujasite mixed matrix membranes. 2017 , 242, 404-415	11
922	Poly(meth)acrylate nanocomposite membranes containing in situ exfoliated graphene platelets: Synthesis, characterization and gas barrier properties. 2017 , 94, 431-445	6
921	Polymer ultrapermeability from the inefficient packing of 2D chains. 2017 , 16, 932-937	181
920	Effect of pore penetration on transport through supported membranes studied by electron microscopy and pervaporation. 2017 , 542, 18-23	3
919	Operational Criteria for the Separation of Alkanes by Zeolite Membranes. 2017 , 89, 926-934	4
918	Experimental analysis of membrane and pressure swing adsorption (PSA) for the hydrogen separation from natural gas. 2017 , 167, 896-907	40
917	Molecular dynamics simulation of the effect of the solid gas interface nanolayer on enhanced thermal conductivity of copper-CO2 nanofluid. 2017 ,	

916	New Generation Fuel Cell Membrane Using Swift Heavy Ions. 2017 , 2, 6413-6437	6
915	Highly selective multilayer polymer thin films for CO ₂ /N ₂ separation. 2017 , 55, 1730-1737	13
914	Design of a multi-can carbon-free gas turbine combustor utilizing multiple shell-and-tube OTRs for ZEPP applications. 2017 , 46, 172-187	6
913	Vacuum filling of complex microchannels with liquid metal. 2017 , 17, 3043-3050	107
912	Ultrathin graphene oxide-based hollow fiber membranes with brush-like CO-philic agent for highly efficient CO capture. 2017 , 8, 2107	113
911	Aromatic poly(ether ether ketone)s capable of crosslinking via UV irradiation to improve gas separation performance. 2017 , 7, 55371-55381	4
910	Two-dimensional graphene oxide membrane for H ₂ /CH ₄ separation: Insights from molecular dynamics simulations. 2017 , 42, 30653-30660	18
909	Gas Separation through Bilayer Silica, the Thinnest Possible Silica Membrane. 2017 , 9, 43061-43071	27
908	Comparison of MFI-ZSM5 and NaA zeolite-type tubular membranes for the separation of water vapour from helium for tritium processes in future fusion reactors. 2017 , 125, 134-138	3
907	Propylene/propane separation by porous graphene membrane: Molecular dynamic simulation and first-principle calculation. 2017 , 78, 477-484	24
906	Mechanism and Prediction of Gas Permeation through Sub-Nanometer Graphene Pores: Comparison of Theory and Simulation. 2017 , 11, 7974-7987	78
905	CFD analysis for the geometry effect of disc-type membrane module on separation performance. 2017 , 34, 2366-2373	
904	Fabrication and performance characterization of novel zinc oxide filled cross-linked PVA/PEG 600 blended membranes for CO ₂ /N ₂ separation. 2017 , 55, 65-73	34
903	Embedding Molecular Amine Functionalized Polydopamine Submicroparticles into Polymeric Membrane for Carbon Capture. <i>Industrial & Engineering Chemistry Research</i> , 2017 , 56, 8103-8110	3-9 12
902	Freeze casting of novel porous silicate cement supports using tert-butyl alcohol-water binary crystals as template: Microstructure, strength and permeability. 2017 , 541, 143-152	16
901	Fundamental transport mechanisms, fabrication and potential applications of nanoporous atomically thin membranes. 2017 , 12, 509-522	408
900	Effect of physical aging on the gas transport and sorption in PIM-1 membranes. 2017 , 113, 283-294	90
899	CO ₂ /N ₂ Separation in Postcombustion Processes by Means of Alumina-Supported Ionic Liquid Membranes. 2017 , 41-50	

898	Membrane-Based Gas Separation Accelerated by Hollow Nanosphere Architectures. 2017 , 29, 1603797	40
897	Membranes. 2017 ,	
896	Surface modification of TiO nanoparticles with biodegradable nanocellulose and synthesis of novel polyimide/cellulose/TiO membrane. 2017 , 491, 390-400	34
895	On the optimal design of membrane-based gas separation processes. 2017 , 526, 118-130	40
894	Hydrophobic-functionalized ZIF-8 nanoparticles incorporated PDMS membranes for high-selective separation of propane/nitrogen. 2017 , 12, 110-120	17
893	Process and engineering trends in membrane based carbon capture. 2017 , 68, 659-684	86
892	Production of oxygen-enriched air via desorption from water: Experimental data, simulations and economic assessment. 2017 , 102, 11-16	6
891	Glucose-derived carbon molecular sieve membrane: An inspiration from cooking. 2017 , 111, 334-337	8
890	Mixed gas sorption in glassy polymeric membranes. III. CO ₂ /CH ₄ mixtures in a polymer of intrinsic microporosity (PIM-1): Effect of temperature. 2017 , 524, 746-757	44
889	Influence of surface-treated SiO ₂ on the transport behavior of O ₂ and N ₂ through polydimethylsiloxane nanocomposite membrane. 2017 , 175, 358-364	15
888	Improved operational stability of Pebax-based gas separation membranes with ZIF-8: A comparative study of flat sheet and composite hollow fibre membranes. 2017 , 524, 266-279	120
887	Analysis of governing factors controlling gas transport through fresh and aged triptycene-based polyimide films. 2017 , 522, 12-22	31
886	Block copolyimide membranes for pure- and mixed-gas separation. 2017 , 173, 183-192	40
885	Synthesis and gas transport properties of hyperbranched polybenzoxazole /silica hybrid membranes. 2017 , 521, 10-17	8
884	Vapor phase infiltration (VPI) for transforming polymers into organic/inorganic hybrid materials: a critical review of current progress and future challenges. 2017 , 4, 747-771	93
883	Effects of Bulky Substituents on Transport Properties of Membrane Gas Separation Materials. 2017 , 57, 1195-1206	6
882	Analysis of the Regeneration of Monoethanolamine Aqueous Solutions by Microwave Irradiation. 2017 , 142, 3661-3666	3
881	A Review on the Production and Purification of Biomass-Derived Hydrogen Using Emerging Membrane Technologies. 2017 , 7, 297	35

880	Hydrogen Separation by Natural Zeolite Composite Membranes: Single and Multicomponent Gas Transport. 2017 , 10,		11
879	Microporous Hyper-Crosslinked Polystyrenes and Nanocomposites with High Adsorption Properties: A Review. 2017 , 9,		43
878	Silica Membranes Application for Carbon Dioxide Separation. 2017 , 265-294		1
877	Biogas Management: Advanced Utilization for Production of Renewable Energy and Added-value Chemicals. 2017 , 5,		65
876	Silica Membranes Application for Hydrogen Separation. 2017 , 243-264		1
875	Polymeric Gas-Separation Membranes for Petroleum Refining. 2017 , 2017, 1-19		59
874	4.9 Membrane Technology in the Refinery and Petrochemical Field: Research Trends and Recent Progresses. 2017 , 164-188		
873	Relating transport modeling to nanofiltration membrane fabrication: Navigating the permeability-selectivity trade-off in desalination pretreatment. 2018 , 554, 26-38		34
872	Economic Estimation of Various Membranes and Distillation for Propylene and Propane Separation. <i>Industrial & Engineering Chemistry Research</i> , 2018 , 57, 4366-4376	3.9	21
871	Ion-Exchanged SAPO-34 Membranes for Krypton-Xenon Separation: Control of Permeation Properties and Fabrication of Hollow Fiber Membranes. 2018 , 10, 6361-6368		27
870	Predictions of fluidities of amines by molecular simulations: TraPPE-EH vs. OPLS-AA. 2018 , 464, 40-46		3
869	Preparation and gas permeation of crown ether-containing co-polyimide with enhanced CO ₂ selectivity. 2018 , 551, 191-203		26
868	Creating cross-linked lamellar block copolymer supporting layers for biomimetic membranes. 2018 , 209, 179-191		13
867	Synthesis, preparation and characterization of novel hyperbranched 6FDA-TTM based polyimide membranes for effective CO ₂ separation: Effect of embedded mesoporous silica particles and siloxane linkages. 2018 , 144, 33-42		23
866	A novel temperature swing adsorption process for natural gas purification, Part II: Performance assessment. 2018 , 204, 81-89		8
865	Poly(ethylene terephthalate) films modified by UV-induced surface graft polymerization of vanillin derived monomer for antibacterial activity. 2018 , 103, 51-58		16
864	Mass Transfer Study of Dehydration by Triethylene Glycol in Rotating Packed Bed for Natural Gas Processing. <i>Industrial & Engineering Chemistry Research</i> , 2018 , 57, 5394-5400	3.9	13
863	Highly permeable thermally rearranged polymer composite membranes with a graphene oxide scaffold for gas separation. 2018 , 6, 7668-7674		54

862	Influence of Filler Pore Structure and Polymer on the Performance of MOF-Based Mixed-Matrix Membranes for CO Capture. 2018 , 24, 7949-7956	33
861	Prediction of the filtrate particle size distribution from the pore size distribution in membrane filtration: Numerical correlations from computer simulations. 2018 , 8, 035308	5
860	Robust thin film composite PDMS/PAN hollow fiber membranes for water vapor removal from humid air and gases. 2018 , 202, 345-356	46
859	Thermally rearranged polybenzoxazoles made from poly(ortho-hydroxyamide)s. Characterization and evaluation as gas separation membranes. 2018 , 127, 38-47	20
858	Selective Permeation through One-Atom-Thick Nanoporous Carbon Membranes: Theory Reveals Excellent Design Strategies!. 2018 , 122, 5127-5146	21
857	Performance evaluation of graphene oxide (GO) nanocomposite membrane for hydrogen separation: Effect of dip coating sol concentration. 2018 , 200, 169-176	30
856	High pressure pure- and mixed sour gas transport properties of Cardo-type block co-polyimide membranes. 2018 , 553, 32-42	27
855	The influence of fumed silica content and particle size in poly (amide 6-b-ethylene oxide) mixed matrix membranes for gas separation. 2018 , 199, 47-56	35
854	New polyethersulfone (PESU) hollow fiber membranes for CO ₂ capture. 2018 , 552, 305-314	31
853	Simulation study of sweetening and dehydration of natural gas stream using MEG solution. 2018 , 96, 2000-2006	10
852	Increasing M2(dobdc) Loading in Selective Mixed-Matrix Membranes: A Rubber Toughening Approach. 2018 , 30, 1484-1495	34
851	CO ₂ Capture Using Hollow Fiber Membranes: A Review of Membrane Wetting. 2018 , 32, 963-978	70
850	Design and synthesis of porous polymeric materials and their applications in gas capture and storage: a review. 2018 , 25, 1	62
849	Methanol to Dimethyl Ether. 2018 , 281-311	12
848	Sequestration and utilization of carbon dioxide by chemical and biological methods for biofuels and biomaterials by chemoautotrophs: Opportunities and challenges. 2018 , 256, 478-490	89
847	Modern Trends and Applications of Gas Transport Through Various Polymers. 2018 , 363-389	2
846	Carbon Molecular Sieve Membranes Derived from Tröger's Base-Based Microporous Polyimide for Gas Separation. 2018 , 11, 916-923	34
845	A comprehensive study on the performance and antifouling enhancement of the PVDF mixed matrix membranes by embedding different nanoparticulates: Clay, functionalized carbon nanotube, SiO ₂ and TiO ₂ . 2018 , 197, 372-381	79

844	Graphene oxide /molybdenum disulfide hybrid membranes for hydrogen separation. 2018 , 550, 145-154	25
843	Computational characterisation of dried and hydrated graphene oxide membranes. 2018 , 10, 1946-1956	20
842	Evolution of CO2 capture technology between 2007 and 2017 through the study of patent activity. 2018 , 211, 1282-1296	73
841	Process intensification. 2018 , 34, 135-200	103
840	Transport Properties Through Polymer Membranes. 2018 , 119-158	
839	Nanoporous carbon superstructures based on covalent bonding of porous fullerenes. 2018 , 130, 424-432	7
838	Engineered Transport in Microporous Materials and Membranes for Clean Energy Technologies. 2018 , 30, 1704953	67
837	Microfluidic Synthesis of MOFs and MOF-Based Membranes. 2018 , 479-515	3
836	Grand canonical Monte Carlo and molecular dynamics simulations of the structural properties, diffusion and adsorption of hydrogen molecules through poly(benzimidazoles)/nanoparticle oxides composites. 2018 , 43, 2803-2816	14
835	Piperazinium-mediated crosslinked polyimide-polydimethylsiloxane (PI-PDMS) copolymer membranes: the effect of PDMS content on CO separation.. 2018 , 8, 1328-1336	10
834	Mutual influence of molecular diffusion in gas and surface phases. 2018 , 97, 013101	7
833	Recent Membrane Developments for CO2 Separation and Capture. 2018 , 41, 211-223	72
832	Management of Implementation of Nanotechnology in Upstream Oil Industry: An Analytic Hierarchy Process Analysis. 2018 , 140,	12
831	Mixed-matrix membranes based on Zn/Ni-ZIF-8-PEBA for high performance CO2 separation. 2018 , 560, 38-46	73
830	Effect of Heavy Hydrocarbons on CO2 Removal from Natural Gas by Low-Temperature Distillation. <i>Industrial & Engineering Chemistry Research</i> , 2018 , 57, 7245-7256	3-9 15
829	Production and application of O enriched air produced by fresh and salt water desorption in chemical plants. 2018 , 217, 621-628	6
828	Electrochemical energy storage performance of carbon nanofiber electrodes derived from 6FDA-durene. 2018 , 29, 275701	6
827	Supported PEBA-zeolite 13X nano-composite membranes for gas separation: Preparation, characterization and molecular dynamics simulation. 2018 , 187, 67-78	26

826	Polymeric Ion Pumps: Using an Oscillating Stimulus To Drive Solute Transport in Reactive Membranes. 2018 , 34, 4503-4514		6
825	Metal-Organic Framework Membrane Synthesis and Applications. 2018 , 281-323		1
824	Design Considerations for Artificial Water ChannelBased Membranes. 2018 , 48, 57-82		31
823	Optimized Hollow Fiber Sorbents and Pressure Swing Adsorption Process for H2 Recovery. <i>Industrial & Engineering Chemistry Research</i> , 2018 , 57, 5093-5105	3.9	12
822	Study on membrane performance in vapor permeation of VOC/N 2 mixtures via modified constant volume/variable pressure method. 2018 , 200, 273-283		25
821	Aging of thin-film composite membranes based on PTMSP loaded with porous aromatic frameworks. 2018 , 554, 211-220		30
820	Some mechanistic insights into the action of facilitating agents on gas permeation through glassy polymeric membranes. 2018 , 64, 186-199		4
819	Microporous Organic Materials for Membrane-Based Gas Separation. 2018 , 30, 1700750		133
818	DielsAlder polymerization: a versatile synthetic method toward functional polyphenylenes, ladder polymers and graphene nanoribbons. 2018 , 50, 3-20		35
817	Surface functionalized UiO-66/Pebax-based ultrathin composite hollow fiber gas separation membranes. 2018 , 6, 918-931		109
816	Development of a dynamic simulation model of a hollow fiber membrane module to sequester CO2 from coalbed methane. 2018 , 546, 258-269		7
815	Eco design LCA of an innovative lab scale plant for the production of oxygen-enriched air. Comparison between economic and environmental assessment. 2018 , 171, 147-152		24
814	Gas diffusion characteristics as criteria of nonequilibrium state of amorphous glassy polymers. 2018 , 547, 99-109		18
813	Bromination/debromination-induced thermal crosslinking of 6FDA-Durene for aggressive gas separations. 2018 , 545, 358-366		27
812	Matrimid 5218 in preparation of membranes for gas separation: Current state-of-the-art. 2018 , 205, 161-196		65
811	Continuous assembly of a polymer on a metalorganic framework (CAP on MOF): a 30 nm thick polymeric gas separation membrane. 2018 , 11, 544-550		93
810	A comparison of pure and mixed-gas permeation of nitrogen and methane in 6FDA-based polyimides as studied by molecular dynamics simulations. 2018 , 141, 243-253		19
809	Synthesis and characterization of fluorinated polyimide/TiO2 nanocomposites: enhancement of separation of four gases, thermal, optical and mechanical properties. 2018 , 75, 2729-2750		6

808	Production of hydrogen from biomass and its separation using membrane technology. 2018 , 82, 3152-3167	26
807	Oxy-combustion of liquid fuel in an ion transport membrane reactor. 2018 , 9, 21-37	6
806	The enhanced hydrogen separation performance of mixed matrix membranes by incorporation of two-dimensional ZIF-L into polyimide containing hydroxyl group. 2018 , 549, 260-266	60
805	Aminosilane grafted Matrimid 5218/nano-silica mixed matrix membrane for CO ₂ /light gases separation. 2018 , 35, 526-534	25
804	High performance mixed matrix membranes (MMMs) composed of ZIF-94 filler and 6FDA-DAM polymer. 2018 , 550, 198-207	71
803	CO ₂ /CH ₄ and H ₂ S/CO ₂ Selectivity by Ionic Liquids in Natural Gas Sweetening. 2018 , 32, 10-23	34
802	Gas transport properties of polybenzoxazole/silica hybrid membranes prepared with different alkoxy silanes. 2018 , 50, 177-186	3
801	Effect of humidity and nanocellulose content on Polyvinylamine-nanocellulose hybrid membranes for CO ₂ capture. 2018 , 548, 263-274	37
800	Waterborne poly(urethane-urea) gas permeation membranes for CO ₂ /CH ₄ separation. 2018 , 135, 46003	8
799	Surface modification of molecular sieve fillers for mixed matrix membranes. 2018 , 538, 333-342	9
798	High performance composite membranes comprising Zn(pyrz) ₂ (SiF ₆) nanocrystals for CO ₂ /CH ₄ separation. 2018 , 60, 279-285	31
797	Development of high performance nanofibrous composite membranes by optimizing polydimethylsiloxane architectures for phenol transport. 2018 , 549, 638-648	16
796	Interfacial control in perfluoropolymer mixed matrix membranes for natural gas sweetening. 2018 , 60, 169-176	15
795	Selective-exhaust gas recirculation for CO ₂ capture using membrane technology. 2018 , 549, 649-659	13
794	Separation and Capture of CO ₂ through A Zeolitic Membrane. 2018 , 2, 1436	1
793	Synthesis of NaA zeolite membrane by maintaining pressure difference between the two sides of the support. 2018 , 20, 7195-7205	5
792	Microwave regeneration of monoethanolamine aqueous solutions used for CO ₂ capture. 2018 , 79, 165-172	11
791	Already Used and Candidate Polymeric Membranes for CO ₂ Separation Plants. 2018 , 51-73	1

790	Metal-Organic Framework Membranes: From Fabrication to Gas Separation. 2018 , 8, 412	38
789	Technology Evolution in Membrane-Based CCS. 2018 , 11, 3153	16
788	Mixed Membranes Comprising Carboxymethyl Cellulose (as Capping Agent and Gas Barrier Matrix) and Nanoporous ZIF-L Nanosheets for Gas Separation Applications. 2018 , 10,	31
787	Atomic Layer Deposition for Membranes: Basics, Challenges, and Opportunities. 2018 , 30, 7368-7390	96
786	Hydrogen purification with CO ₂ -selective facilitated transport membranes. 2018 , 21, 96-102	11
785	Desalination. 2018 , 1-34	1
784	Performance and Exhaust Emissions Analysis of a Diesel Engine Using Oxygen-Enriched Air. 2018 ,	3
783	A Comprehensive Review on Polymeric Nano-Composite Membranes for Water Treatment. 2018 , 08,	95
782	Influence of the Preparation Method and Photo-Oxidation Treatment on the Thermal and Gas Transport Properties of Dense Films Based on a Poly(ether-block-amide) Copolymer. 2018 , 11,	18
781	CO ₂ Capture From Coal-Fired Power Plants. 2018 , 309-328	
780	Membrane Optimization and Process Condition Investigation for Enhancing the CO ₂ Separation From Natural Gas. 2018 , 469-509	2
779	Polymeric Membrane Materials for CO ₂ Separations. 2018 , 3-50	4
778	Ceramic Membranes, Preparation, Properties, and Investigation on CO ₂ Separation. 2018 , 185-207	2
777	Measurement and Prediction of Hydrocarbon Dew Points of Synthetic Natural Gas Mixtures. 2018 , 63, 4226-4233	2
776	Effect of Precipitation Temperature on the Properties of Cellulose Ultrafiltration Membranes Prepared via Immersion Precipitation with Ionic Liquid as Solvent. 2018 , 8,	7
775	Hybrid Membranes for Carbon Dioxide Removal From High-Pressure Natural Gas. 2018 , 439-467	
774	Membranes for NG Separation Processes: Recent Progress and Future Perspectives. 2018 , 591-624	
773	A gas tension device for the mesopelagic zone. 2018 , 139, 68-78	2

772	The effect of pressure and mixed gas composition on humid CO ₂ and hydrocarbons permeation in Aquivion [®] PFSA. 2018 , 566, 96-103		6
771	A Review on Recent Developments and Progress in Natural Gas Processing and Separating Using Nanoparticles Incorporated Membranes. 2018 ,		1
770	Ultrathin gutter layer for high-performance thin-film composite membranes for CO ₂ separation. 2018 , 566, 336-345		22
769	A ground breaking polymer blend for CO ₂ /N ₂ separation. 2018 , 27, 536-546		24
768	Polymers of Intrinsic Microporosity Postmodified by Vinyl Groups for Membrane Applications. 2018 , 51, 7309-7319		14
767	Stabilization of Gas Transport Properties of Composite Membranes with a Thin PTMSP Selective Layer by Adding Porous Aromatic Framework Nanoparticles and Simultaneous Polymer Crosslinking. 2018 , 58, 790-796		5
766	Role of Filler Porosity and Filler/Polymer Interface Volume in Metal-Organic Framework/Polymer Mixed-Matrix Membranes for Gas Separation. 2018 , 10, 33589-33600		50
765	Breaking separation limits in membrane technology. 2018 , 566, 301-306		16
764	Pentafluoroethane Dehydration with Ionic Liquids. <i>Industrial & Engineering Chemistry Research</i> , 2018 , 57, 12225-12234	3.9	10
763	4. Membrane gas separation. 2018 , 71-104		
762	Effects of sub-T _g cross-linking of triptycene-based polyimides on gas permeation, plasticization resistance and physical aging properties. 2018 , 560, 87-96		35
761	An optimization model for assessment of membrane-based post-combustion gas upcycling into hydrogen or syngas. 2018 , 563, 83-92		13
760	High-performance multiple-layer PIM composite hollow fiber membranes for gas separation. 2018 , 563, 93-106		63
759	Modeling Amorphous Microporous Polymers for CO Capture and Separations. 2018 , 118, 5488-5538		134
758	Enhanced Permeation through CO ₂ -Stable Dual-Inorganic Composite Membranes with Tunable Nanoarchitected Channels. 2018 , 6, 8515-8524		21
757	The synthesis, chain-packing simulation and long-term gas permeability of highly selective spirobifluorene-based polymers of intrinsic microporosity. 2018 , 6, 10507-10514		57
756	An overview of the transport of liquid molecules through structured polymer films, barriers and composites - Experiments correlated to structure-based simulations. 2018 , 256, 48-64		8
755	Soluble polyimides with propeller shape triphenyl core for membrane based gas separation. 2018 , 135, 46658		5

754	Tuning the Gas Selectivity of Tröger's Base Polyimide Membranes by Using Carboxylic Acid and Tertiary Base Interactions. 2018 , 11, 2744-2751	16
753	Comparison of hollow fiber and flat mixed-matrix membranes: Theory and simulation. 2018 , 187, 174-188	8
752	Scale-up of zeolite-Y/polyethersulfone substrate for composite membrane fabrication in CO ₂ separation. 2018 , 562, 56-66	16
751	Activation Entropy for Diffusion of Gases Through Mixed Matrix Membranes. 2018 , 547-572	1
750	Recent progress in ionic liquid membranes for gas separation. 2018 , 266, 330-341	96
749	Graphynes: indispensable nanoporous architectures in carbon flatland.. 2018 , 8, 22998-23018	16
748	Graphene oxide hybrid poly(p-phenylene sulfide) nanofiltration membrane intercalated by bis(triethoxysilyl) ethane. 2018 , 352, 10-19	16
747	Toluene vapor removal using an inorganic/organic double-network ion gel membrane. 2018 , 53, 2840-2851	5
746	Scalable thin-layer membrane reactor for heterogeneous and homogeneous catalytic gas-liquid reactions. 2018 , 20, 3867-3874	17
745	Zeolites Nanocomposite Membrane Applications in CO ₂ Capture. 2018 , 916-921	3
744	Modified Porous SiO ₂ -Supported Cu(BTC) Membrane with High Performance of Gas Separation. 2018 , 11,	5
743	Minimization of the Theoretical Error of Input Parameters for a Vapor Permeation Apparatus. 2018 , 41, 1727-1736	5
742	Advances in biopolymer-based membrane preparation and applications. 2018 , 564, 562-586	148
741	Structural, Thermal, and Gas-Transport Properties of Fe Ion-Exchanged Nafion Membranes. 2018 , 3, 7474-7482	7
740	CO ₂ Separation in Nanocomposite Membranes by the Addition of Amidine and Lactamide Functionalized POSS Nanoparticles into a PVA Layer. 2018 , 8,	11
739	Progress on Incorporating Zeolites in Matrimid5218 Mixed Matrix Membranes towards Gas Separation. 2018 , 8,	37
738	A Perspective of Solutions for Membrane Instabilities in Olefin/Paraffin Separations: A Review. <i>Industrial & Engineering Chemistry Research</i> , 2018 , 57, 10071-10085	3-9 37
737	Structural characterization and properties of ODPA/ODA polyetherimide membranes modified by ethylene glycol. 2018 , 75, 5825-5842	

736	Modeling of Nanoflows. 2018 , 185-215	
735	Progress in O ₂ separation for oxy-fuel combustion: A promising way for cost-effective CO ₂ capture: A review. 2018 , 67, 188-205	73
734	Fabrication of Hollow Fiber Membrane from Polyarylate/Polyarylate Block Copolymer for Air Separation. 2018 , 58, 289-295	2
733	Hybrid Gas Separation Membranes Containing Star-Shaped Polystyrene with the Fullerene (C ₆₀) Core. 2018 , 58, 296-303	8
732	Intrinsically microporous co-polyimides derived from ortho-substituted Tröger's Base diamine with a pendant tert-butyl-phenyl group and their gas separation performance. 2018 , 153, 173-182	12
731	Harnessing Filler Materials for Enhancing Biogas Separation Membranes. 2018 , 118, 8655-8769	154
730	Sandwich membranes through a two-dimensional confinement strategy for gas separation. 2018 , 2, 1911-1919	
729	Block copolymer membranes with catecholic bolaamphiphile assemblies. 2018 , 566, 35-43	2
728	Engineered nanomaterials for wastewater treatment: current and future trends. 2018 , 129-168	11
727	Atomistic Simulation of Gas Uptake and Interface-Induced Disorder in Solid Phases of an Organic Ionic Plastic Crystal. 2018 , 122, 8274-8283	6
726	An overview of process systems engineering approaches for process intensification: State of the art. 2018 , 133, 160-210	158
725	Synthesis of ZIF-93/11 Hybrid Nanoparticles via Post-Synthetic Modification of ZIF-93 and Their Use for H ₂ /CO Separation. 2018 , 24, 11211-11219	17
724	Recent advances on mixed-matrix membranes for gas separation: Opportunities and engineering challenges. 2018 , 35, 1577-1600	70
723	Energy efficient design of membrane processes by use of entropy production minimization. 2018 , 117, 105-116	6
722	Gas Transport Through Interpenetrating Polymer Networks. 2018 , 533-546	
721	Enhanced Gas Transport Performance of Polyamide Membranes by Postpolymerization Modification. <i>Industrial & Engineering Chemistry Research</i> , 2018 , 57, 8989-8996	3-9 7
720	Improving particle dispersity and CO ₂ separation performance of amine-functionalized CAU-1 based mixed matrix membranes with polyethyleneimine-grafting modification. 2018 , 189, 277-285	27
719	Fundamentals and Measurement Techniques for Gas Transport in Polymers. 2018 , 391-423	15

718	Recent Advances in Poly (Amide-B-Ethylene) Based Membranes for Carbon Dioxide (CO ₂) Capture: A Review. 2019 , 58, 366-383	7
717	Facile CO ₂ Separation in Composite Membranes. 2019 , 42, 30-44	33
716	Experimental study on graphene-based nanocomposite membrane for hydrogen purification: Effect of temperature and pressure. 2019 , 330, 16-23	13
715	Synthesis and application of high-permeable zeolite MER membrane for separation of carbon dioxide from methane. 2019 , 55, 103-114	3
714	Designing hybrid materials with multifunctional interfaces for wound dressing, electrocatalysis, and chemical separation. 2019 , 533, 106-125	10
713	Enhanced CO ₂ permeability in Matrimid [®] 5218 mixed matrix membranes for separating binary CO ₂ /CH ₄ mixtures. 2019 , 210, 553-562	52
712	Metalloid phosphorus cation doping: An effective strategy to improve permeability and stability through the hydrogen permeable membranes. 2019 , 210, 320-326	6
711	Modification of PVDF membrane by two-dimensional inorganic additive for improving gas permeation. 2019 , 54, 311-328	12
710	Graphene-based materials. 2019 , 41-56	
709	Olefin/paraffin separation through membranes: from mechanisms to critical materials. 2019 , 7, 23489-23511	36
708	Molecular Transport Behavior of CO in Ionic Polyimides and Ionic Liquid Composite Membrane Materials. 2019 , 123, 7455-7463	14
707	Mechanical Control of the Kinetic Propylene/Propane Separation by Zeolitic Imidazolate Framework-8. 2019 , 131, 13872-13876	11
706	Sequential Template Decomposition to Adjust the Performance of Imperfect Zeolite BEA Membranes. 2019 , 91, 953-960	2
705	Bridged polysilsesquioxane membranes for water desalination. 2019 , 51, 1103-1116	14
704	A Computational Fluid Dynamics Approach for the Modeling of Gas Separation in Membrane Modules. 2019 , 7, 420	7
703	A Review on Porous Polymeric Membrane Preparation. Part I: Production Techniques with Polysulfone and Poly (Vinylidene Fluoride). 2019 , 11,	119
702	Mechanical Control of the Kinetic Propylene/Propane Separation by Zeolitic Imidazolate Framework-8. 2019 , 58, 13734-13738	27
701	Addition Polyalkylbornenes: A Promising New Class of Si-Free Membrane Materials for Hydrocarbons Separation. 2019 , 40, e1900206	10

700	A review on polymer-based membranes for gas-liquid membrane contacting processes: Current challenges and future direction. 2019 , 229, 115791		41
699	A Crown Ether-Containing Copolyimide Membrane with Improved Free Volume for CO ₂ Separation. <i>Industrial & Engineering Chemistry Research</i> , 2019 , 58, 14357-14367	3-9	8
698	Preparation, structure, and pervaporation performance of poly(amide-imide)-sulfonated polyimide composites. 2019 , 136, 48197		9
697	Propylene - propane separation using Zeolitic-Imidazolate Framework (ZIF-8) membranes: Process techno-commercial evaluation. 2019 , 591, 117252		14
696	Catalytic partial oxidation (CPOX) of natural gas and renewable hydrocarbons/oxygenated hydrocarbons: A review. 2019 , 338, 18-30		24
695	Self-Healing Hyper-Cross-Linked Metal-Organic Polyhedra (HCMOPs) Membranes with Antimicrobial Activity and Highly Selective Separation Properties. 2019 , 141, 12064-12070		72
694	Ionic liquid gated 2D-CAP membrane for highly efficient CO ₂ /N ₂ and CO ₂ /CH ₄ separation. 2019 , 494, 477-483		8
693	Microporous Polymeric Membranes: Structure, Preparation, Characterization, and Applications. 2019 , 225-258		
692	Transport Mechanism and Modeling of Microporous Polymeric Membranes. 2019 , 259-280		
691	Preparation of polybenzoxazole-silica hybrid membranes for CO ₂ /CH ₄ separation. 2019 , 51, 1037-1044		6
690	Redefining the Robeson upper bounds for CO ₂ /CH ₄ and CO ₂ /N ₂ separations using a series of ultrapermeable benzotriptycene-based polymers of intrinsic microporosity. 2019 , 12, 2733-2740		248
689	Thermal Cross Linking of Novel Azide Modified Polymers of Intrinsic Microporosity-Effect of Distribution and the Gas Separation Performance. 2019 , 11,		8
688	Hydrogen purification using nanoporous graphene membranes and its economic analysis. 2019 , 208, 115141		8
687	Entropic selectivity in air separation via a bilayer nanoporous graphene membrane. 2019 , 21, 16310-16315		3
686	Polymeric Membranes for Natural Gas Processing: Polymer Synthesis and Membrane Gas Transport Properties. 2019 , 941-976		1
685	Permeabilities and selectivities in anisotropic planar membranes for gas separations. 2019 , 228, 115762		1
684	Ceramic-Supported Polyhedral Oligomeric Silsesquioxane/Organosilica Nanocomposite Membrane for Efficient Gas Separation. <i>Industrial & Engineering Chemistry Research</i> , 2019 , 58, 21708-21716	3-9	5
683	Prediction of Solubility Parameters of Light Gases in Glassy Polymers on the Basis of Simulation of a Short Segment of a Polymer Chain. 2019 , 61, 718-732		0

682	Influence of the various pore former additives on the performance and characteristics of the bare and EPVC/boehmite nanocomposite ultrafiltration membranes. 2019 , 21, 100663	2
681	. 2019 ,	5
680	CO ₂ -philic Separation Membrane: Deep Eutectic Solvent Filled Graphene Oxide Nanoslits. 2019 , 15, e1904145	37
679	Fibrous PEBA-graphene nanocomposite filaments and membranes fabricated by extrusion and additive manufacturing. 2019 , 121, 109317	14
678	Transport Properties of Mixed-Matrix Membranes: A Kinetic Monte Carlo Study. 2019 , 12,	7
677	Chabazite Zeolite SAPO-34 Membranes for He/CH ₄ Separation. 2019 , 1, 655-659	8
676	Effect of the Post-Spinning Solvent Exchange on the Performance of Asymmetric, Polyimide Hollow Fibers Prepared by Using a Triple-Orifice Spinneret. 2019 , 12,	4
675	Combustion analysis of a light duty diesel engine using oxygen-enriched and humidified combustion air. 2019 , 116, 00061	
674	Recent advances in ion-imprinted membranes: separation and detection via ion-selective recognition. 2019 , 5, 1626-1653	37
673	Temperature-Dependent Gas Transport Behavior in Cross-Linked Liquid Crystalline Polyacrylate Membranes. 2019 , 9,	1
672	Ionic Liquids-Based Membranes for Carbon Dioxide Separation. 2019 , 59, 824-831	7
671	Hydrophobic Gas Transfer Membranes for Wastewater Treatment and Resource Recovery. 2019 , 53, 11618-11635	36
670	Poly(arylene ether ketone) containing amino and fluorenyl groups for highly selective of gas separation. 2019 , 26, 1	6
669	Analytical Prediction of Gas Permeation through Graphene Nanopores of Varying Sizes: Understanding Transitions across Multiple Transport Regimes. 2019 , 13, 11809-11824	31
668	Highly CO ₂ -permeable membranes derived from a midblock-sulfonated multiblock polymer after submersion in water. 2019 , 11,	12
667	Optimizing hybrid membrane-pressure swing adsorption processes for biogenic hydrogen recovery. 2019 , 364, 452-461	25
666	Transport of gas molecules through dense membranes and intensification of mass transfer by radiation. 2019 , 137, 48-53	
665	Modeling gas transport in polymer-grafted nanoparticle membranes. 2019 , 15, 424-432	13

664	Cathodic driven coating delamination suppressed by inhibition of cation migration along Zn polymer interface in atmospheric CO ₂ . 2019 , 3,	9
663	Supported Ionic Liquid Membranes with Dual-Site Interaction Mechanism for Efficient Separation of CO ₂ . 2019 , 7, 10792-10799	41
662	An adjustable permeation membrane up to the separation for multicomponent gas mixture. 2019 , 9, 7380	8
661	. 2019 ,	239
660	Flexible carbon nanothread-based membranes with strain-dependent gas transport properties. 2019 , 585, 184-190	2
659	Mathematical modeling and process parametric study of CO ₂ removal from natural gas by hollow fiber membranes. 2019 , 148, 45-55	16
658	Polymeric nanocomposite membranes for water treatment: a review. 2019 , 17, 1539-1551	84
657	A review of polymeric composite membranes for gas separation and energy production. 2019 , 97, 101141	118
656	Surface-attached brush-type CO ₂ -philic poly(PEGMA)/PSf composite membranes by UV/ozone-induced graft polymerization: Fabrication, characterization, and gas separation properties. 2019 , 589, 117214	6
655	Microporous Organic Framework Materials for Membrane Separations. 2019 , 413-436	
654	Effects of porous media on extraction kinetics: Is the membrane really a limiting factor?. 2019 , 586, 318-325	8
653	Understanding of transition metal (Ru, W) doping into Nb for improved thermodynamic stability and hydrogen permeability: density functional theory calculations. 2019 , 21, 17538-17545	4
652	UV-crosslinked poly(PEGMA-co-MMA-co-BPMA) membranes: Synthesis, characterization, and CO ₂ /N ₂ and CO ₂ /CO separation. 2019 , 587, 117167	15
651	Arginine/Nanocellulose Membranes for Carbon Capture Applications. 2019 , 9,	12
650	High oxygen permeable Zeolite-4A poly(dimethylsiloxane) membrane for air separation. 2019 , 136, 48047	5
649	Solution Casting Blending: An Effective Way for Tailoring Gas Transport and Mechanical Properties of Poly(vinyl butyral) and Pebax2533. 2019 , 123, 11264-11272	5
648	Bisimidazolium PEG-mediated crosslinked 6FDA-durene polyimide membranes for CO ₂ separation. 2019 , 224, 180-188	26
647	WITHDRAWN: Synthesis and properties of bromomethylated polymer of intrinsic Microporosity(PIM) as high performance gas separation membranes. 2019 ,	

646	Fe-based ceramic nanocomposite membranes fabricated via e-spinning and vacuum filtration for Cd ions removal. 2019 , 230, 527-535	11
645	Analytical Investigation of the Confinement Effect on Capillary Condensation Pressure of Fluids in Nanopores. 2019 ,	0
644	Ionic liquid tethered PEG-based polyurethane-siloxane membranes for efficient CO/CH separation. 2019 , 102, 524-535	11
643	Tuning 1-hexene/n-hexane adsorption on MOF-74 via constructing Co-Mg bimetallic frameworks. 2019 , 284, 151-160	25
642	Interfacial Property Modulation of PIM-1 through Polydopamine-Derived Submicrospheres for Enhanced CO/N Separation Performance. 2019 , 11, 19613-19622	20
641	Membranes utilization for biogas upgrading to synthetic natural gas. 2019 , 245-274	2
640	Study of the enrichment of NF ₃ waste gas using zeolite and polymeric membranes. 2019 , 220, 1-7	4
639	A review on functional polymer-clay based nanocomposite membranes for treatment of water. 2019 , 379, 120584	64
638	Microporous Organic Polymer Nanocomposites for Adsorption Applications. 2019 , 25-47	1
637	CO ₂ /N ₂ selectivity enhancement of PEBAX MH 1657/Aminated partially reduced graphene oxide mixed matrix composite membrane. 2019 , 223, 142-153	31
636	Effect of Ionic Liquid Impregnation in Highly Water-Stable Metal-Organic Frameworks, Covalent Organic Frameworks, and Carbon-Based Adsorbents for Post-combustion Flue Gas Treatment. 2019 , 33, 3421-3428	12
635	Anisotropic membrane materials for gas separations. 2019 , 65, e16599	1
634	Synthesis of NaX zeolite-graphite amine fiber composite membrane: Role of graphite amine in membrane formation for H ₂ /CO ₂ separation. 2019 , 480, 934-944	10
633	Process Design Characteristics of Syngas (CO/H ₂) Separation Using Composite Membrane. 2019 , 11, 703	9
632	Synthesis and gas transport properties of novel poly(ether ether ketone)s containing fluorene group. 2019 , 31, 1173-1182	7
631	Nonequilibrium Steady States in Fluid Transport through Mesopores: Dynamic Mean Field Theory and Nonequilibrium Molecular Dynamics. 2019 , 35, 5702-5710	3
630	Influence of Trimethylsilyl Side Groups on the Molecular Mobility and Charge Transport in Highly Permeable Glassy Polynorbornenes. 2019 , 1, 844-855	10
629	Mildly oxidized SWCNT as new potential support membrane material for effective H ₂ /CO ₂ separation. 2019 , 15, 335-342	7

- 628 Defect-Free MOF-Based Mixed-Matrix Membranes Obtained by Corona Cross-Linking. **2019**, 11, 13029-13037 57
- 627 Self-healing imidazolium-based ionene-polyamide membranes: an experimental study on physical and gas transport properties. **2019**, 68, 1123-1129 21
- 626 Membrane-based carbon capture technologies: Membrane gas separation vs. membrane contactor. **2019**, 67, 172-195 67
- 625 Density functional calculations of efficient H₂ separation from impurity gases (H₂, N₂, H₂O, CO, Cl₂, and CH₄) via bilayer g-C₃N₄ membrane. **2019**, 28, 048102 7
- 624 Fluorine in the structure of polymers: influence on the gas separation properties. **2019**, 88, 387-405 22
- 623 Temperature-controlled repeatable scrambling and induced-sorting of building blocks between cubic assemblies. **2019**, 10, 1440 4
- 622 Liquid- and Gas-Phase Separation in MOFs. **2019**, 365-393 2
- 621 Post-combustion CO₂ capture with membrane process: Practical membrane performance and appropriate pressure. **2019**, 581, 195-213 39
- 620 Synthesis and gas transport properties of polyamide membranes containing PDMS groups.. **2019**, 9, 9737-9744 11
- 619 Enhancing plasticization-resistance of mixed-matrix membranes with exceptionally high CO₂/CH₄ selectivity through incorporating ZSM-25 zeolite. **2019**, 583, 23-30 30
- 618 Polyimides in membrane gas separation: Monomer molecular design and structural engineering. **2019**, 91, 80-125 136
- 617 PLA Easy Fil White-based membranes for CO₂ separation. **2019**, 9, 360-369 12
- 616 Radiation Physics and Chemistry of Polymeric Materials. **2019**, 35-68 3
- 615 Simulation of multicomponent gas transport through mixed-matrix membranes. **2019**, 577, 219-234 4
- 614 Exploring Host-Guest Interactions in the Zn(HCOO) Metal-Organic Framework. **2019**, 4, 4000-4011 8
- 613 Preparation of Mixed Matrix Membranes Containing ZIF-8 and UiO-66 for Multicomponent Light Gas Separation. **2019**, 9, 15 8
- 612 Applications of OTRs in Gas Turbines and Boilers. **2019**, 275-368
- 611 Ion Transport Membranes (ITMs) for Oxygen Separation. **2019**, 91-132

610	Fine-tuning the molecular structure of binaphthalene polyimides for gas separations. 2019 , 114, 134-143		8
609	Design and Synthesis of Imidazolium-Mediated Tröger's Base-Containing Ionene Polymers for Advanced CO Separation Membranes. 2019 , 4, 3439-3448		21
608	Effect of a Different Number of Amine-Functional Groups on the Gas Sorption and Permeation Behavior of a Hybrid Membrane Comprising of Impregnated Linde T and 4,4'-(Hexafluoroisopropylidene) Diphthalic Anhydride-Derived Polyimide. 2019 , 11,		3
607	Mixed-matrix membranes for CO ₂ separation: role of the third component. 2019 , 7, 24738-24759		52
606	A Bibliometric Survey of Paraffin/Olefin Separation Using Membranes. 2019 , 9,		9
605	A simple self-regulating permeability and selectivity of poly (arylene ether ketone) with amino groups for gas separation membrane. 2019 , 26, 1		1
604	Investigation into the Effective Chemical Structure of Metal-Containing Ionic Liquids for Oxygen Absorption. <i>Industrial & Engineering Chemistry Research</i> , 2019 , 58, 23304-23316	3-9	4
603	Inorganic Membranes for Gas Separations. 2019 , 147-179		3
602	Plasticization suppression and CO ₂ separation enhancement of Matrimid through homogeneous blending with a new high performance polymer. 2019 , 574, 318-324		13
601	Towards a cleaner natural gas production: recent developments on purification technologies. 2019 , 54, 2461-2497		3
600	Silicone rubbers with alkyl side groups for C ₃ + hydrocarbon separation. 2019 , 134, 156-165		18
599	Densification-induced hollow fiber membranes using crosslinked thermally rearranged (XTR) polymer for CO ₂ capture. 2019 , 573, 393-402		24
598	Association of hard segments in gas separation through polyurethane membranes with aromatic bulky chain extenders. 2019 , 574, 136-146		23
597	Simultaneously tuning dense skin and porous substrate of asymmetric hollow fiber membranes for efficient purification of aggressive natural gas. 2019 , 65, 1269-1280		12
596	Effect of external fluid and inline crosslinking on the performance of polyimide hollow fibres prepared by using a triple-orifice spinneret. 2019 , 570-571, 410-417		5
595	Comparing the effect of incorporation of various nanoparticulate on the performance and antifouling properties of polyethersulfone nanocomposite membranes. 2019 , 27, 47-57		26
594	Modification of polyetherimide membranes with ZIFs fillers for CO ₂ separation. 2019 , 212, 474-482		11
593	Mixed matrix membranes based on MIL-101 metal-organic frameworks in polymer of intrinsic microporosity PIM-1. 2019 , 212, 545-554		31

592	Poly(phenylene) synthesized using diels-alder chemistry and its sulfonation: Sulfonate group complexation with metal counter-ions, physical properties, and gas transport. 2019 , 572, 320-331	7
591	Metal-induced ordered microporous polymers for fabricating large-area gas separation membranes. 2019 , 18, 163-168	113
590	Membrane Gas Separation. 2019 , 457-481	2
589	Effect of PEG-MEA and graphene oxide additives on the performance of Pebax® 1657 mixed matrix membranes for CO ₂ separation. 2019 , 572, 300-308	55
588	Metal-organic frameworks in Germany: From synthesis to function. 2019 , 380, 378-418	65
587	Polymer/Carbon Nanotubes Mixed Matrix Membranes for Water Purification. 2019 , 87-110	6
586	Polyhedral Oligomeric Silsesquioxane (POSS) Nano-Composite Separation Membranes [A Review]. 2019 , 21, 1800667	28
585	Hierarchical Porous Carbon Synthesized from Novel Porous Amorphous Calcium or Magnesium Citrate with Enhanced SF ₆ Uptake and SF ₆ /N ₂ Selectivity. 2019 , 2, 778-789	12
584	Functional hyper-crosslinked resins with tailored adsorption properties for environmental applications. 2019 , 362, 497-503	23
583	Elaboration and characterization of a low-cost porous ceramic support from natural Tunisian bentonite clay. 2019 , 22, 188-197	18
582	Thin mixed matrix and dual layer membranes containing metal-organic framework nanosheets and Polyactive® for CO ₂ capture. 2019 , 570-571, 226-235	37
581	Recent progress on fabrication methods of polymeric thin film gas separation membranes for CO ₂ capture. 2019 , 572, 38-60	115
580	Economic Framework of Membrane Technologies for Natural Gas Applications. 2019 , 48, 298-324	34
579	An unprecedented high-temperature-tolerance 2D laminar MXene membrane for ultrafast hydrogen sieving. 2019 , 569, 117-123	47
578	Confined Ionic Liquid in an Ionic Porous Aromatic Framework for Gas Separation. 2019 , 1, 95-102	13
577	Polymeric Membranes for Natural Gas Processing: Polymer Synthesis and Membrane Gas Transport Properties. 2019 , 1-37	
576	Thin film composite membranes based on a polymer of intrinsic microporosity derived from Tröger's base: A combined experimental and computational investigation of the role of residual casting solvent. 2019 , 569, 17-31	16
575	A calcium-based microporous metal-organic framework for efficient adsorption separation of light hydrocarbons. 2019 , 358, 446-455	53

574	Effect of poly(ethylene glycol) molecular weight on CO ₂ /N ₂ separation performance of poly(amide-12-b-ethylene oxide)/poly(ethylene glycol) blend membranes. 2019 , 28, 39-45	15
573	A membrane-assisted hydrogen and carbon oxides separation from flare gas and recovery to a commercial methanol reactor. 2020 , 45, 7386-7400	14
572	Enhanced hydrogen purification by graphene - Poly(Dimethyl siloxane) membrane. 2020 , 45, 3549-3557	10
571	Synthesis and gas permeation analysis of TiO ₂ nanotube-embedded cellulose acetate mixed matrix membranes. 2020 , 74, 821-828	5
570	Recent advances in carbon-based renewable adsorbent for selective carbon dioxide capture and separation-A review. 2020 , 242, 118409	101
569	Synthesis and properties of highly processable asymmetric polyimides with bulky phenoxy groups. 2020 , 32, 455-468	2
568	Manufacturing Nanoporous Materials for Energy-Efficient Separations. 2020 , 33-81	7
567	Polymers of Intrinsic Microporosity and Their Potential in Process Intensification. 2020 , 231-264	2
566	Automated detection and localization system of myocardial infarction in single-beat ECG using Dual-Q TQWT and wavelet packet tensor decomposition. 2020 , 184, 105120	20
565	Dimensionally-controlled densification in crosslinked thermally rearranged (XTR) hollow fiber membranes for CO ₂ capture. 2020 , 595, 117535	15
564	Enhanced quality of transfer-free graphene membrane for He/CH ₄ separation. 2020 , 232, 115972	5
563	Synthesis and characterization of graphene nanoplate-incorporated PVA mixed matrix membrane for improved separation of CO ₂ . 2020 , 77, 2405-2422	9
562	2D layered double hydroxide membranes with intrinsic breathing effect toward CO ₂ for efficient carbon capture. 2020 , 598, 117663	21
561	Cysteamine-crosslinked graphene oxide membrane with enhanced hydrogen separation property. 2020 , 595, 117568	34
560	Graphenylene membrane: An excellent candidate for hydrogen purification and helium separation. 2020 , 157, 779-787	15
559	Predicting gas solubility in semi-crystalline polymer solvent systems by consistent coupling of Sanchez-Lacombe EOS with a continuum mechanics approach. 2020 , 506, 112379	4
558	Cross-Linkable Semi-Rigid 6FDA-Based Polyimide Hollow Fiber Membranes for Sour Natural Gas Purification. <i>Industrial & Engineering Chemistry Research</i> , 2020 , 59, 5333-5339	3.9 11
557	Biological systems for CCS: Patent review as a criterion for technological development. 2020 , 257, 114032	8

556	Modelling of methane and n-butane sorption, diffusion and permeation in polydimethylsiloxane using PC-SAFT. 2020 , 597, 117642		3
555	Aromatic polyimides and copolyimides containing bulky t-butyltriphenylmethane units. 2020 , 77, 5103-5125		3
554	Pilot plants of membrane technology in industry: Challenges and key learnings. 2020 , 14, 305-316		8
553	High gas permselectivity in ZIF-302/polyimide self-consistent mixed-matrix membrane. 2020 , 137, 48513		19
552	Isoelectronic Doping and External Electric Field Regulate the Gas-Separation Performance of Graphdiyne. 2020 , 124, 2712-2720		6
551	Effect of side branch on gas separation performance of triptycene based PIM membrane: A molecular simulation study. 2020 , 83, 106339		7
550	Solubility and diffusivity of CO ₂ in ionic polyimides with [C(CN) ₃] _x [oAc] _{1-x} anion composition. 2020 , 174, 109468		15
549	Experimental study on heat and mass transfer of a multi-stage planar dehumidifier. 2020 , 148, 119104		8
548	State-of-the-art modification of polymeric membranes by PEO and PEG for carbon dioxide separation: A review of the current status and future perspectives. 2020 , 84, 1-22		19
547	Zn(II)-modified imidazole containing polyimide/ZIF-8 mixed matrix membranes for gas separations. 2020 , 597, 117775		38
546	A review on low dimensional carbon desalination and gas separation membrane designs. 2020 , 598, 117785		38
545	110th Anniversary: Gas and Vapor Sorption in Glassy Polymeric Membranes Critical Review of Different Physical and Mathematical Models. <i>Industrial & Engineering Chemistry Research</i> , 2020 , 59, 341-365	3.9	14
544	Perspective on Gas Separation Membrane Materials from Process Economics Point of View. <i>Industrial & Engineering Chemistry Research</i> , 2020 , 59, 556-568	3.9	25
543	Molecular-Sieving Membrane by Partitioning the Channels in Ultrafiltration Membrane by In Situ Polymerization. 2020 , 132, 4431-4435		
542	Effect of hexafluoroisopropylidene group contents and treatment temperature on the performance of thermally rearranged poly(hydroxyamide)s membranes. 2020 , 595, 117540		4
541	Novel carbon-based separation membranes composed of integrated zero- and one-dimensional nanomaterials. 2020 , 8, 1084-1090		10
540	Molecular-Sieving Membrane by Partitioning the Channels in Ultrafiltration Membrane by In Situ Polymerization. 2020 , 59, 4401-4405		23
539	Ultrathin Membranes for Gas Separation. 2020 , 153-185		0

538	Polymeric Membranes. 2020 , 187-214	
537	Metal-organic framework UiO-66 membranes. 2020 , 14, 216-232	22
536	PBI mixed matrix hollow fiber membrane: Influence of ZIF-8 filler over H ₂ /CO ₂ separation performance at high temperature and pressure. 2020 , 237, 116347	35
535	Fabrication of durable hydrophobic porous polyurethane membrane via water droplet induced phase separation for protective textiles. 2020 , 90, 1245-1261	4
534	A review on emerging organic-containing microporous material membranes for carbon capture and separation. 2020 , 391, 123575	42
533	PVA/PVP blend polymer matrix for hosting carriers in facilitated transport membranes: Synergistic enhancement of CO ₂ separation performance. 2020 , 5, 59-68	31
532	Electric field induced alignment of graphene oxide nanoplatelets in polyethersulfone matrix. 2020 , 31, 155701	9
531	Novel Poly Deep Eutectic Solvents Based Supported Liquid Membranes for CO ₂ Capture. 2020 , 8,	13
530	Ion separations with membranes. 2020 , 58, 2831-2856	16
529	Key Applications and Potential Limitations of Ionic Liquid Membranes in the Gas Separation Process of CO, CH ₄ , N ₂ , H ₂ or Mixtures of These Gases from Various Gas Streams. 2020 , 25,	10
528	Effect of ligand structures on oxygen absorbability and viscosity of metal-containing ionic liquids. 2020 , 318, 114365	2
527	Recent advances in carbon dioxide capture and utilization with amines and ionic liquids. 2020 , 1, 16-32	24
526	CO ₂ capture by modified hollow fiber membrane contactor: Numerical study on membrane structure and membrane wettability. 2020 , 209, 106530	16
525	Recent progress on thin film composite membranes for CO ₂ separation. 2020 , 42, 101296	25
524	Novel semi-fluorinated poly(ether imide)s with benzyl ether side groups: Synthesis, physicochemical characterization, gas transport properties and simulation. 2020 , 135, 109879	5
523	Can PDMS membranes separate aldehydes and alkenes at high temperatures?. 2020 , 615, 118334	6
522	Synthesis and gas transport properties of hyperbranched network polyimides derived from Tris(4-aminophenyl)benzene. 2020 , 203, 122776	2
521	Synthesis of triptycene-based linear polyamide membrane for molecular sieving of N ₂ from the VOC mixture. 2020 , 252, 117355	2

- 520 Gas transport in fluorine-containing polymers. **2020**, 157-203
- 519 Rational design of poly(ethylene oxide) based membranes for sustainable CO₂ capture. **2020**, 8, 24233-24252 39
- 518 Synthesis and performance of comb-shape poly(arylene ether sulfone) with flexible aliphatic brush. **2020**, 210, 122953 1
- 517 Computational Study on Strain-Engineered Graphene Nanopores for Selective Gas Separation. **2020**, 3, 11474-11480 5
- 516 Macrovoid-free high performance polybenzimidazole hollow fiber membranes for elevated temperature H₂/CO₂ separations. **2020**, 45, 27331-27345 9
- 515 Highly permeable polyimides incorporating Tröger's base (TB) units for gas separation membranes. **2020**, 615, 118533 10
- 514 Membranes for air and volatile organic compounds treatment. **2020**, 47-69 2
- 513 Continuous gas-phase hydroformylation of but-1-ene in a membrane reactor by supported liquid-phase (SLP) catalysis. **2020**, 22, 5691-5700 16
- 512 Porous organic polymer material supported palladium nanoparticles. **2020**, 8, 17360-17391 44
- 511 Isomer-Tailored Carbon Molecular Sieve Membranes with High Gas Separation Performance. **2020**, 13, 5318-5328 6
- 510 Influence of interfacial layer parameters on gas transport properties through modeling approach in MWCNTs based mixed matrix composite membranes. **2020**, 218, 115543 14
- 509 Energy and time efficient infrared (IR) irradiation treatment for preparing thermally rearranged (TR) and carbon molecular sieve (CMS) membranes for gas separation. **2020**, 613, 118477 8
- 508 Insights into the Dielectric-Heating-Enhanced Regeneration of CO₂-Rich Aqueous Amine Solutions. **2020**, 8, 13593-13599 2
- 507 Geometric Analysis of Clusters of Free Volume Accessible to Small Penetrants and Their Connectivity in Polymer Nanocomposites Containing Carbon Nanotubes. **2020**, 53, 9563-9583 1
- 506 Membrane-based gas separation accelerated by quaternary mixed matrix membranes. **2020**, 84, 103655 6
- 505 Hydrocarbon Molecules Separation using Nanoporous Materials. **2020**, 217-264
- 504 CH₄-Selective Mixed-Matrix Membranes Containing Functionalized Silica for Natural Gas Purification. **2020**, 43, 2167-2180 5
- 503 Highly Ordered Nanochannels in a Nanosheet-Directed Thin Zeolite Nanofilm for Precise and Fast CO Separation. **2020**, 16, e2002836 12

502	. 2020,	1
501	Application of Desalination Membranes to Nuclide (Cs, Sr, and Co) Separation. 2020, 5, 20261-20269	7
500	6FDA-containing polyimide-ionene + ionic liquid gas separation membranes. 2020, 58, 2664-2674	1
499	A new approach to separate hydrogen from carbon dioxide using graphdiyne-like membrane. 2020, 10, 13549	5
498	Dimensional Nanofillers in Mixed Matrix Membranes for Pervaporation Separations: A Review. 2020, 10,	9
497	Carbon Nanotubes for Hydrogen Purification and Storage. 2020, 211-238	
496	SI-ATRP Polymer-Functionalized Graphene Oxide for Water Vapor Separation. 2020, 7, 2000443	7
495	Process intensification connects scales and disciplines towards sustainability. 2020, 98, 2489-2506	13
494	Gas Permeation Characteristics of TiO-ZrO-Aromatic Organic Chelating Ligand (aOCL) Composite Membranes. 2020, 10,	2
493	Microscopic and macroscopic investigation on the gas diffusion in poly(ether-block-amide) membranes doped with polysorbate nonionic surfactants. 2020, 209, 122949	2
492	Mechanism and Compatibility of Pretreated Lignocellulosic Biomass and Polymeric Mixed Matrix Membranes: A Review. 2020, 10,	6
491	Aging of Thin-Film Composite Membranes Based on Crosslinked PTMSP/PEI Loaded with Highly Porous Carbon Nanoparticles of Infrared Pyrolyzed Polyacrylonitrile. 2020, 10,	0
490	Cu(I/II) Metal-Organic Frameworks Incorporated Nanofiltration Membranes for Organic Solvent Separation. 2020, 10,	7
489	A state of the art review on biomass processing and conversion technologies to produce hydrogen and its recovery via membrane separation. 2020, 45, 15166-15195	57
488	Ionic liquid cobalt complex as O ₂ carrier in the PIM-1 membrane for O ₂ /N ₂ separation. 2020, 248, 117041	7
487	Preparation and Microstructure Control of PMDA/ODA Polyimide Hollow Fibers. 2020, 21, 944-953	2
486	Selective Separation of CO ₂ from Flue Gas Using Carbon and Boron Nitride Nanotubes as a Membrane. 2020, 34, 7223-7231	5
485	Nanostructured membranes for water treatments. 2020, 129-150	2

484	Hyflon/PVDF membranes prepared by NIPS and TIPS: Comparison in MD performance. 2020 , 247, 116992	13
483	Optimization analysis of polyurethane based mixed matrix gas separation membranes by incorporation of gamma-cyclodextrin metal organic frame work. 2020 , 74, 3527-3543	8
482	Membrane technologies for exhaust gas cleaning and carbon capture and sequestration. 2020 , 97-123	1
481	Mixed matrix membranes (MMMs) using an emerging metal-organic framework (MUF-15) for CO ₂ separation. 2020 , 609, 118245	21
480	Highly permeable novel PDMS coated asymmetric polyethersulfone membranes loaded with SAPO-34 zeolite for carbon dioxide separation. 2020 , 248, 116899	17
479	The performance of a hybrid VSA-membrane process for the capture of CO ₂ from flue gas. 2020 , 97, 103037	12
478	Synthetic polymer-based membranes for acidic gas removal. 2020 , 173-190	
477	Synthetic polymeric membranes for gas and vapor separations. 2020 , 217-272	1
476	A screening study of alcohol solvents for alkanolamine-based CO ₂ capture. 2020 , 99, 103081	10
475	Recent Advances in Gas Separation via Supported Liquid Membranes. 2020 , 37-71	
474	Prospects for the Use of Electrooxidation and Electrocoagulation Techniques for Membrane Filtration of Irrigation Water. 2020 , 7, 391-420	5
473	Triggering the gas transport in PVdF-HFP membranes via imidazolium ionic liquids. 2020 , 250, 117201	11
472	Separation of Light Gases from Xenon over Porous Organic Cage Membranes. 2020 , 12, 32182-32188	13
471	Recent progress in microporous polymers from thermally rearranged polymers and polymers of intrinsic microporosity for membrane gas separation: Pushing performance limits and revisiting trade-off lines. 2020 , 58, 2450-2466	24
470	Synthesis and gas separation performance of intrinsically microporous polyimides derived from sterically hindered binaphthalenetetracarboxylic dianhydride. 2020 , 11, 4172-4179	4
469	Strain-controlled graphdiyne membrane for CO ₂ /CH ₄ separation: First-principle and molecular dynamic simulation. 2020 , 28, 1898-1903	6
468	Porous Polyvinyl Alcohol Membranes: Preparation Methods and Applications. 2020 , 12, 960	25
467	A critical review of membrane modification techniques for fouling and biofouling control in pressure-driven membrane processes. 2020 , 5, 1	18

466	Controlling the formation of porous polyketone membranes via a cross-linkable alginate additive for oil-in-water emulsion separations. 2020 , 611, 118362	17
465	Effective Separation of CO Using Metal-Incorporated rGO Membranes. 2020 , 32, e1907580	34
464	Development of Thin-Film Composite Membranes from Aromatic Cardo-Type Co-Polyimide for Mixed and Sour Gas Separations from Natural Gas. 2020 , 4, 1900107	9
463	Design assessment of polymeric membranes modules to separate carbon dioxide from a binary mixture with methane. 2020 , 150, 107883	4
462	Synthesis and Performance of Aromatic Polyamide Ionenes as Gas Separation Membranes. 2020 , 10,	11
461	Ion-gated carbon molecular sieve gas separation membranes. 2020 , 604, 118013	9
460	Tailored CO ₂ -Philic Anionic Poly(ionic liquid) Composite Membranes: Synthesis, Characterization, and Gas Transport Properties. 2020 , 8, 5954-5965	18
459	A review on graphene-based materials for removal of toxic pollutants from wastewater. 2020 , 18, 297-322	9
458	Flue gas purification with membranes based on the polymer of intrinsic microporosity PIM-TMN-Trip. 2020 , 242, 116814	6
457	Dual-phase polyphenylene oxide membranes with copolyimide branched modifiers. 2020 , 137, 49543	3
456	Covalent-organic frameworks (COFs)-based membranes for CO ₂ separation. 2020 , 41, 101224	14
455	Fundamental investigation of the gas permeation mechanism of facilitated transport membranes with Co(salen)-containing ionic liquid as O ₂ carriers. 2020 , 248, 117018	3
454	Highly permeable and selective mixed-matrix membranes for hydrogen separation containing PAF-1. 2020 , 8, 14713-14720	12
453	Perspectives on oxygen-based coal conversion towards zero-carbon power generation. 2020 , 196, 117074	2
452	Enhancing Gas Permeation Properties of Pebax 1657 Membranes via Polysorbate Nonionic Surfactants Doping. 2020 , 12,	13
451	Polyelectrolyte Functionalized Ti ₂ CT _x MXene Membranes for Pervaporation Dehydration of Isopropanol/Water Mixtures. <i>Industrial & Engineering Chemistry Research</i> , 2020 , 59, 4732-4741	3-9 33
450	Effect of Physical Aging on Gas Transport in Asymmetric Polyimide Hollow Fibers Prepared by Triple-Orifice Spinneret. 2020 , 12,	6
449	Thermally Stable and Mechanically Strong Mesoporous Films of Poly(ether imide)-Based Triblock Copolymers. 2020 , 2, 1398-1405	10

448	Ideal two-dimensional molecular sieves for gas separation: Metal trihalides MX ₃ with precise atomic pores. 2020 , 602, 117786	4
447	Energy efficiency of membrane vs hybrid membrane/cryogenic processes for propane recovery from nitrogen purging vents: A simulation study. 2020 , 240, 116613	6
446	Pebax® 1041 supported membranes with carbon nanotubes prepared via phase inversion for CO/N ₂ separation. 2020 , 49, 2905-2913	2
445	Overview of membrane technology. 2020 , 1-28	13
444	Metal organic frameworks-based mixed matrix membranes for gas separation. 2020 , 273-292	3
443	Ultrathin Membranes: A New Opportunity for Ultrafast and Efficient Separation. 2020 , 5, 1901069	17
442	Mixed Matrix PVA-GO-TiO ₂ Membranes for the Dehydration of Isopropyl Alcohol by Pervaporation. 2020 , 28, 587-595	6
441	Experimental Evaluation of the Efficiency of Membrane Cascades Type of Continuous Membrane Column in the Carbon Dioxide Capture Applications. 2020 , 2, 35-44	2
440	. 2020 ,	2
439	Polyalkylmethylsiloxanes composite membranes for hydrocarbon/methane separation: Eight component mixed-gas permeation properties. 2020 , 241, 116696	12
438	Polymers of Intrinsic Microporosity Having Bulky Substitutes and Cross-Linking for Gas Separation Membranes. 2020 , 2, 987-995	14
437	Role of ionic liquids in eliminating interfacial defects in mixed matrix membranes. 2020 , 269-309	
436	Carbon Capture and Storage. 2020 , 669-692	2
435	Separation of Refrigerant Gas Mixtures Containing R32, R134a, and R1234yf through Poly(ether-block-amide) Membranes. 2020 , 8, 2548-2556	17
434	Experimental and theoretical exploration of gas permeation mechanism through 2D graphene (not graphene oxides) membranes. 2020 , 601, 117883	12
433	Covalent organic frameworks for separation applications. 2020 , 49, 708-735	376
432	Recent Advances of Gas Transport Channels Constructed with Different Dimensional Nanomaterials in Mixed-Matrix Membranes for CO ₂ Separation. 2020 , 4, 1900749	22
431	Preparation of high-performance and pressure-resistant mixed matrix membranes for CO ₂ /H ₂ separation by modifying COF surfaces with the groups or segments of the polymer matrix. 2020 , 601, 117882	27

430	Impact of Soft Segment Size on Structural and Permeation Properties of Polyurethane Membranes. 2020 , 28, 1944-1953	2
429	Improving CO ₂ /CH ₄ and O ₂ /N ₂ separation by using surface-modified polysulfone hollow fiber membranes. 2020 , 27, 1	7
428	Synthesis and property of novel gas mixed-matrix membrane with carbon nanotubes. 2020 , 27, 1	1
427	Carbon monoxide poisoning and mitigation strategies for polymer electrolyte membrane fuel cells [A review]. 2020 , 79, 100842	38
426	Synthesis and gas separation properties of OH-functionalized Tröger's base-based PIMs derived from 1,1'-binaphthalene-2,2'-OH. 2020 , 193, 122369	8
425	Effects of humidified enriched air on combustion and emissions of a diesel engine. 2020 , 155, 569-577	2
424	A solution-processable and ultra-permeable conjugated microporous thermoset for selective hydrogen separation. 2020 , 11, 1633	23
423	Enhancing the Separation Performance of Glassy PPO with the Addition of a Molecular Sieve (ZIF-8): Gas Transport at Various Temperatures. 2020 , 10,	7
422	Unobstructed Ultrathin Gas Transport Channels in Composite Membranes by Interfacial Self-Assembly. 2020 , 32, e1907701	33
421	Synthesis of SiOC/Al ₂ O ₃ nano/macro composites through PDC method; investigation of potentials as layers of a packed bed reactor membrane. 2020 , 46, 19000-19007	2
420	Membranes for hydrogen separation. 2020 , 91-134	
419	Theoretical and experimental investigation of CO ₂ separation from CH ₄ and N ₂ through supported ionic liquid membranes. 2020 , 268, 115016	29
418	Influence of vacuum degree on hydrogen permeation through a Pd membrane in different H ₂ /N ₂ gas mixtures. 2020 , 155, 1245-1263	5
417	Separation of C ₁ -C ₄ Hydrocarbon Mixtures Using Fe-Containing Siloxane Composition. 2020 , 2, 27-34	6
416	Effect of Bridgehead Methyl Substituents on the Gas Permeability of Tröger's-Base Derived Polymers of Intrinsic Microporosity. 2020 , 10,	4
415	Synthesis of high purity hydroxy sodalite nanoparticles via pore-plugging hydrothermal method for inorganic membrane development: Effect of synthesis variables on crystallinity, crystal size and morphology. 2021 , 38, 675-681	3
414	Preparation and properties of hollow fibre nanofiltration membrane with continuous coffee-ring structure. 2021 , 15, 351-362	2
413	Plasticization behavior of crown-ether containing polyimide membranes for the separation of CO ₂ . 2021 , 255, 117307	9

412	A comparison of oil-water separation by gravity and electrolysis separation process. 2021 , 56, 359-373	6
411	Process intensification in the oil and gas industry: A technological framework. 2021 , 159, 108208	9
410	Biopolymers for sustainable membranes in CO ₂ separation: a review. 2021 , 213, 106643	21
409	Natural gas purification by asymmetric membranes: An overview. 2021 , 6, 176-192	10
408	Recent advances in polymer blend membranes for gas separation and pervaporation. 2021 , 116, 100713	68
407	An Extrinsic-Pore-Containing Molecular Sieve Film: A Robust, High-Throughput Membrane Filter. 2021 , 60, 1323-1331	4
406	Hydrocarbon separation properties of a CVD-deposited ceramic membrane under single gases and binary mixed gas. 2021 , 254, 117642	3
405	An Extrinsic-Pore-Containing Molecular Sieve Film: A Robust, High-Throughput Membrane Filter. 2021 , 133, 1343-1351	2
404	Filtration and removal of liquid polymers from water (polymer/water separation) by use of the underwater superpolymphobic mesh produced with a femtosecond laser. 2021 , 582, 1203-1212	10
403	Multifunctional covalent organic framework (COF)-Based mixed matrix membranes for enhanced CO ₂ separation. 2021 , 618, 118693	32
402	A perspective on ionic liquid-based membranes for CO ₂ separation. 2021 , 75, 839-852	3
401	Emerging porous nanosheets: From fundamental synthesis to promising applications. 2021 , 14, 1-28	27
400	Synthesis of imidazolium-mediated Poly(benzoxazole) Ionene and composites with ionic liquids as advanced gas separation membranes. 2021 , 214, 123239	3
399	Immobilization of Ionic Liquids with a New Cellulose Ester Containing Imidazolium Cation for High-Performance CO Separation Membranes. 2021 , 42, e2000494	3
398	Amine-functionalized mesoporous monolithic adsorbents for post-combustion carbon dioxide capture. 2021 , 413, 127675	10
397	Surprising olefin/paraffin separation performance recovery of highly aged carbon molecular sieve hollow fiber membranes by a super-hyperaging treatment. 2021 , 620, 118701	10
396	Gas separation performance of MMMs containing (PIM-1)-functionalized GO derivatives. 2021 , 623, 118902	18
395	Hierarchical ZIF-8 composite membranes: Enhancing gas separation performance by exploiting molecular dynamics in hierarchical hybrid materials. 2021 , 620, 118943	4

394	The induced orientation effect of linear gases during transport in a NaA zeolite membrane modified by alkali lignin. 2021 , 620, 118971	3
393	Highly selective asymmetric polybenzimidazole-4,4'-(hexafluoroisopropylidene) bis(benzoic acid) hollow fiber membranes for hydrogen separation. 2021 , 257, 117954	7
392	Scalable crystalline porous membranes: current state and perspectives. 2021 , 50, 1913-1944	13
391	Amphiphilic micelle-forming PDMS-PEG-BEM comb copolymer self-assembly to tailor the interlamellar nanospaces of defective poly(ethylene oxide) membranes. 2021 , 257, 117892	5
390	Highly selective separation of CO ₂ /N ₂ using [Emim][Tf ₂ N] supported ionic liquid membranes prepared by supercritical fluid deposition. 2021 , 170, 105139	6
389	Electrochemical carbon dioxide capture to close the carbon cycle. 2021 , 14, 781-814	56
388	Nanocomposite membranes with high-charge and size-screened phosphorylated nanocellulose fibrils for CO ₂ separation. 2021 , 6, 585-596	12
387	Highly-selective separation of CO ₂ from N ₂ or CH ₄ in task-specific ionic liquid membranes: Facilitated transport and salting-out effect. 2021 , 254, 117621	23
386	High performance compatible thiazole-based polymeric blend cellulose acetate membrane as selective CO absorbent and molecular sieve. 2021 , 252, 117215	5
385	Membrane engineering for a sustainable production of ethylene. 2021 , 212, 106624	5
384	Effect of Cu-MOFs incorporation on gas separation of Pebax thin film nanocomposite (TFN) membrane. 2021 , 38, 121-128	3
383	Carbon nanotube membranes [Strategies and challenges towards scalable manufacturing and practical separation applications. 2021 , 257, 117929	21
382	Nanoconfined deep eutectic solvent in laminated MXene for efficient CO ₂ separation. 2021 , 405, 126961	24
381	Facile preparation of fluoroalkyl end-capped vinyltrimethoxysilane oligomer/β-Edihydroxy-terminated poly(dimethylsiloxane) composite rubber: application to effective removal of fluorinated aromatic compound from aqueous methanol solution by fluoroalkylated silicone composite rubber. 2021 , 18, 65-73	
380	Potentials and challenges of high-field PFG NMR diffusion studies with sorbates in nanoporous media. 2021 , 27, 485-501	4
379	Progress and perspectives in high-purity substance production for semiconductor industry. 2021 , 37, 125-161	7
378	Mixed matrix membranes for hydrocarbons separation and recovery: a critical review. 2021 , 37, 363-406	13
377	Enhanced CO ₂ /N ₂ separation by supported ionic liquid membranes (SILMs) based on PDMS and 1-ethyl-3-methylimidazolium acetate. 2021 , 208, 137-147	3

376	Isotopic separation of helium through graphyne membranes: a ring polymer molecular dynamics study. 2021 , 23, 18547-18557	1
375	Advanced applications of green materials for gas separation and storage. 2021 , 681-703	0
374	Membrane-based technologies for industrial wastewater treatment and resource recovery. 2021 , 403-421	1
373	Mixed-Matrix Membranes. 2021 , 87-113	0
372	Predicting Gas Separation through Graphene Nanopore Ensembles with Realistic Pore Size Distributions. 2021 , 15, 1727-1740	10
371	Metal organic frameworks for hydrogen purification. 2021 ,	1
370	Membrane-based technology for methane separation from biogas. 2021 , 117-157	0
369	Organic molecular sieve membranes for chemical separations. 2021 , 50, 5468-5516	55
368	Membrane Applications. 2021 , 199-343	2
367	Extracting adsorbate information from manometric uptake measurements of hydrogen at high pressure and ambient temperature. 1	0
366	Metal-organic frameworks and permeable natural polymers for reasonable carbon dioxide fixation. 2021 , 417-440	
365	CO/CH and He/N Separation Properties and Water Permeability Valuation of Mixed Matrix MWCNTs-Based Cellulose Acetate Flat Sheet Membranes: A Study of the Optimization of the Filler Material Dispersion Method. 2021 , 11,	2
364	Gas transport properties of thermally rearranged (TR) polybenzoxazole silica hybrid membranes. 2021 , 214, 123274	1
363	Effect of silica nanoparticles on carbon dioxide separation performances of PVA/PEG cross-linked membranes. 2021 , 75, 3131-3153	10
362	Mixed Matrix Membranes Based on Fluoropolymers with and -Terphenyl Fragments for Gas Separation Applications. 2021 , 6, 4921-4931	2
361	Feasibility study of CO ₂ /N ₂ separation intensification on supported ionic liquid membranes by commonly used impregnation methods. 2021 , 11, 297-312	1
360	Applications of polyimide coatings: a review. 2021 , 3, 1	18
359	Polymer-based Membranes for Propylene/Propane Separation. 1-13	0

358	Investigation of cellulose acetate/gamma-cyclodextrin MOF based mixed matrix membranes for CO ₂ /CH ₄ gas separation. 2021 , 11, 313-330	7
357	Incorporation of open-pore MFI zeolite nanosheets in polydimethylsiloxane (PDMS) to isomer-selective mixed matrix membranes. 2021 , 315, 110930	2
356	Structure evolution in carbon molecular sieve membranes derived from binaphthol-6FDA polyimide and their gas separation performance. 2021 , 94, 489-497	0
355	Metal-organic framework membranes: Unprecedented opportunities for gas separations. 2021 , 67, e17258	1
354	Efficient facilitated transport PETIM dendrimer-PVA-PEG/PTFE composite flat-bed membranes for selective removal of CO ₂ . 2021 , 622, 119007	4
353	Metal-organic framework membranes: Unprecedented opportunities for gas separations. 2021 , 67, e17258	
352	Methane Recovery from Landfills. 2021 , 699-722	
351	Design and Gas Separation Performance of Imidazolium Poly(ILs) Containing Multivalent Imidazolium Fillers and Crosslinking Agents. 2021 , 13,	6
350	Membranes. 2021 , 203-240	
349	Recent Progress in a Membrane-Based Technique for Propylene/Propane Separation. 2021 , 11,	7
348	Bentonite-based composites with ceramic and metallic powders additions for use as filters. 2021 , 13, 168781402110118	0
347	A Review Based on Low- and High-Stream Global Carbon Capture and Storage (CCS) Technology and Implementation Strategy. 2021 , 8, 722-737	1
346	Self-Organized Implanting of Micro/Nanofiltration Membranes in Advanced Flow Reactors. 2021 , 13, 19430-19442	
345	The prospect of synthesis of PES/PEG blend membranes using blend NMP/DMF for CO ₂ /N ₂ separation. 2021 , 28, 1	3
344	Fundamental Investigation of the Rate-Determining Step of CO ₂ Permeation through Ion Gel Membranes Containing Amino-Acid Ionic Liquid as the CO ₂ Carrier. <i>Industrial & Engineering Chemistry Research</i> , 2021 , 60, 7397-7405	3.9 2
343	Improvement of dye and protein filtration efficiency using modified PES membrane with 2-mercaptoethanol capped zinc sulfide quantum dots. 2021 , 168, 109-121	9
342	A microporous polymer TFC membrane with 2-D MOF nanosheets gutter layer for efficient H ₂ separation. 2021 , 261, 118283	8
341	High-performance CO ₂ /CH ₄ separation membrane fabrication with PVAm modified by the MOFs containing amine groups. 2021 , 89, 103874	9

340	Characterization of simultaneous heat, oxygen, and carbon dioxide transfer across a nonporous polydimethylsiloxane (PDMS) hollow fiber membrane. 2021 , 6, 100106	3
339	Ethylene vinyl acetate copolymer/MgAl-layered double hydroxide nanocomposite membranes applied in CO ₂ /N ₂ gas separation. 2021 , 42, 4065-4072	1
338	Effects of membrane selectivity and configuration on methane purity and recovery from high carbon dioxide content natural gas. 2021 , 89, 103882	2
337	Preparation and High Performance of Cellulose Acetate Films by Grafting with Imidazole Ionic Liquid. 2021 , 6, 12500-12506	2
336	Integration of Renewable Hydrogen Production in Steelworks Off-Gases for the Synthesis of Methanol and Methane. 2021 , 14, 2904	5
335	Xenon and Krypton separation by membranes at sub-ambient temperatures and its comparison with cryogenic distillation. 2021 , 262, 118349	0
334	High-performance membrane with angstrom-scale manipulation of gas transport channels via polymeric decorated MOF cavities. 2021 , 625, 119175	9
333	Multifunctional strain-controlled graphdiyne membrane for gas separation: a theoretical study. 1-6	
332	Membrane technologies for space engineering. 2021 , 626, 119177	6
331	Current and future trends in polymer membrane-based gas separation technology: A comprehensive review. 2021 , 98, 103-129	27
330	Separation of CH ₄ , H ₂ , N ₂ and CO gases using four types of nanoporous graphene cluster model: a quantum chemical investigation. 2021 , 27, 201	2
329	Modification of CO ₂ -selective mixed matrix membranes by a binary composition of poly(ethylene glycol)/NaY zeolite. 2021 , 627, 119239	13
328	Zeolitic imidazolate framework membranes for gas separations: Current state-of-the-art, challenges, and opportunities. 2021 , 98, 17-41	7
327	Application of the fractal model to estimate the diffusion and solubility of gases in non-porous membranes based on aromatic polynorbornene dicarboximides. 2021 , 28, 1	0
326	Polymerizable metal-organic frameworks for the preparation of mixed matrix membranes with enhanced interfacial compatibility. 2021 , 24, 102560	3
325	Hybrid Microporous Polymeric Materials with Outstanding Permeability and Increased Gas Transport Stability: PTMSP Aging Prevention by Sorption of the Polymerization Catalyst on HCPS. 2021 , 13,	0
324	Advances in the Use of Nanocomposite Membranes for Carbon Capture Operations. 2021 , 2021, 1-22	1
323	Imputation of missing gas permeability data for polymer membranes using machine learning. 2021 , 627, 119207	9

322	Tuning the micro-phase separation of the PES-g-PEG comb-like copolymer membrane for efficient CO ₂ separation. 2021 , 265, 118465	10
321	Ultraporous Polymers of Intrinsic Microporosity Containing Spirocyclic Units with Fused Triptycenes. 2021 , 31, 2104474	5
320	Prospective of Upfront Nitrogen (N ₂) Removal in LNG Plants: Technical Communication. 2021 , 14, 3616	1
319	Gas-permeation properties of sandwich-like polyaniline/poly(ethylene vinyl acetate) nanocomposite membranes. 2021 , 170, 239-247	2
318	A review on the emerging applications of cellulose, cellulose derivatives and nanocellulose in carbon capture. 2021 , 197, 111100	16
317	Physical and Mechanical Properties of Hollow Fiber Membranes and Technological Parameters of the Gas Separation Process. 2021 , 11,	
316	Oxygen-Selective Diffusion-Bubbling Membranes with Core-Shell Structure: Bubble Dynamics and Unsteady Effects. 2021 , 37, 8370-8381	2
315	Structural Characterization of Protonated Water Clusters Confined in HZSM-5 Zeolites. 2021 , 143, 10203-10213	3
314	A review on the recent advances in mixed matrix membranes for gas separation processes. 2021 , 145, 111062	26
313	Shape-Selective Ultramicroporous Carbon Membranes for Sub-0.1 μ m Organic Liquid Separation. 2021 , 8, e2004999	3
312	Recent Advances in Polymer-Inorganic Mixed Matrix Membranes for CO Separation. 2021 , 13,	9
311	Influence of ZIF-95 on structure and gas separation properties of polyimide-based mixed matrix membranes. 2021 , 91, 103941	6
310	Separation of C/C binary organic gas mixtures via flexible nanoporous carbon molecular sieves: DFT calculations and MD simulations. 2021 , 106, 107911	1
309	Performance analysis of ceramic membrane tube modules for water and heat recovery in coal-fired power plants. 2021 , 306, 127237	1
308	Assessment of the current state of research and achievements in the field of catalytic processing of natural gas into valuable chemical products. 2021 , 21, 197-217	
307	The structure of CO and CH at the interface of a poly(urethane urea) oligomer model from the microscopic point of view. 2021 , 155, 044704	0
306	Polyvinylidene Fluoride/Nanoclays (Cloisite 30B and Palygorskite) Mixed Matrix Membranes with Improved Performance and Antifouling Properties. <i>Industrial & Engineering Chemistry Research</i> , 2021 , 60, 12078-12091	3.9 3
305	Supported liquid membranes comprising of choline chloride based deep eutectic solvents for CO ₂ capture: Influence of organic acids as hydrogen bond donor. 2021 , 335, 116155	6

304	Advances in materials process and separation mechanism of the membrane towards hydrogen separation. 2021 , 46, 27062-27087	9
303	High-Selectivity Polysiloxane Membranes for Gases and Liquids Separation (A Review). 2021 , 61, 959-976	6
302	Modified Zeolite/Polysulfone Mixed Matrix Membrane for Enhanced CO/CH Separation. 2021 , 11,	1
301	Theoretical and experimental investigation of CO ₂ capture through choline chloride based supported deep eutectic liquid membranes. 2021 , 335, 116234	5
300	Enhancing polyimide-based mixed matrix membranes performance for CO ₂ separation containing PAF-1 and p-DCX. 2021 , 268, 118677	0
299	MIL-101(Cr) Microporous Nanocrystals Intercalating Graphene Oxide Membrane for Efficient Hydrogen Purification. 2021 , 16, 3162-3169	3
298	Graphene Oxide and its Derivatives for Gas Separation Membranes. 2021 , 8, 490	1
297	State of the art and prospects of chemically and thermally aggressive membrane gas separations: Insights from polymer science. 2021 , 229, 123988	4
296	Novel Polydimethylsiloxane membranes impregnated with SAPO-34 zeolite particles for gas separation. 2021 , 75, 6417	2
295	Novel Cellulose Triacetate (CTA)/Cellulose Diacetate (CDA) Blend Membranes Enhanced by Amine Functionalized ZIF-8 for CO Separation. 2021 , 13,	3
294	Multicomponent Spiral Wound Membrane Separation Model for CO Removal from Natural Gas. 2021 , 11,	1
293	C ₂ s/C ₁ hydrocarbon separation: The major step towards natural gas purification by metal-organic frameworks (MOFs). 2021 , 442, 213998	14
292	Bottom-up synthesis of graphene films hosting atom-thick molecular-sieving apertures. 2021 , 118,	2
291	Highly selective hollow fiber membranes for carbon capture via in-situ layer-by-layer surface functionalization. 2021 , 633, 119381	6
290	Original Installation for Researching the Process of Forming Polysulfone Hollow Fiber Membranes. 899, 1-8	
289	High-vacuum setup for permeability and diffusivity measurements by membrane techniques. 2021 , 191, 110368	2
288	A photodriven energy efficient membrane process for trace VOC removal from air: First step to a smart approach. 2021 , 419, 129566	0
287	Enhanced molecular selectivity and plasticization resistance in ring-opened Tröger's base polymer membranes. 2021 , 634, 119399	3

- 286 Ultrahigh permeance metal coated porous graphene membranes with tunable gas selectivities. **2021**, 7, 2385-2394 2
- 285 A gradient viscosity model for estimating CO₂ permeability of amino acid ionic liquid-based facilitated transport membrane. **2021**, 119847 3
- 284 Mixed Matrix Membranes Incorporated with Aminosilane-Functionalized SAPO-34 for Upgrading CO₂/CH₄ Separation Performances. *Industrial & Engineering Chemistry Research*, **2021**, 60, 13927-13937 2
- 283 The removal of nitrogen monoxide from polluted air using CHA- and DDR-type zeolite membranes: Insights from molecular simulations. **2021**, 28, 102651 2
- 282 Preparation and characterization of modified halloysite nanotubes/Pebax nanocomposite membranes for CO₂/CH₄ separation. **2021**, 174, 199-212 2
- 281 Copolyimide membranes with improved H₂S/CH₄ selectivity for high-pressure sour mixed-gas separation. **2021**, 272, 118897 4
- 280 A review of recent trends and emerging perspectives of ionic liquid membranes for CO₂ separation. **2021**, 9, 105860 9
- 279 Evaluation of morphology, performance and fouling tendency of mixed matrix PVDF ultrafiltration membranes incorporated by different size-controlled SAPO-34 nanozeolites. **2021**, 9, 105900 4
- 278 The effect of chain rigidity and microporosity on the sub-ambient temperature gas separation properties of intrinsic microporous polyimides. **2021**, 635, 119439 5
- 277 Review on the preparation of carbon membranes derived from phenolic resins for gas separation: From petrochemical precursors to bioresources. **2021**, 183, 12-33 3
- 276 A review of removing SO₂ and NO_x by wet scrubbing. **2021**, 47, 101451 3
- 275 Significantly improved gas separation properties of sulfonated PIM-1 by direct sulfonation using SO₃ solution. **2021**, 635, 119440 6
- 274 SPEEK membranes by incorporation of NaY zeolite for CO₂/N₂ separation. **2021**, 275, 119189 1
- 273 Supported deep eutectic liquid membranes with highly selective interaction sites for efficient CO₂ separation. **2021**, 342, 117509 3
- 272 Accurate monitoring of gas mixture transport kinetics through polymeric membranes. **2021**, 277, 119477 0
- 271 Scaling-up defect-free asymmetric hollow fiber membranes to produce oxygen-enriched gas for integration into municipal solid waste gasification process. **2021**, 640, 119787 2
- 270 Hydrogen sulfide mix gas permeation in Aquivion® perfluorosulfonic acid (PFSA) ionomer membranes for natural gas sweetening. **2021**, 640, 119809 0
- 269 Nanofibers interpenetrating network mimicking reinforced-concrete to construct mechanically robust composite membrane for enhanced CO₂ separation. **2021**, 639, 119749 2

268	State-of-the-art assessment of natural gas liquids recovery processes: Techno-economic evaluation, policy implications, open issues, and the way forward. 2022 , 238, 121684	1
267	Fabrication of highly (110)-Oriented ZIF-8 membrane at low temperature using nanosheet seed layer. 2022 , 641, 119915	5
266	A review on the progress and prospects of oxy-fuel carbon capture and sequestration (CCS) technology. 2022 , 308, 122057	17
265	Applications of Polymer Silver Nanocomposites. 2021 , 191-212	1
264	Modified nanofiltration membrane treatment of saline water. 2021 , 25-44	1
263	Design of interchain hydrogen bond in polyimide membrane for improved gas selectivity and membrane stability. 2021 , 618, 118659	15
262	Recent progress and prospects of polymeric hollow fiber membranes for gas application, water vapor and particulate matters removal.	7
261	Si-Containing Polymers in Membrane Gas Separation. 373-398	2
260	Organic Ionic Plastic Crystal-Based Composite Membranes for Light Gas Separation: The Impact of Varying Ion Type and Casting Method. 2020 , 13, 5740-5748	3
259	Introduction. 2015 , 1-10	2
258	Poly (Hexahydrotriazine) Membranes Prepared by Coupling Reaction Between Diamines and Aldehydes. 2017 , 3-10	1
257	Organic Porous Polymer Materials: Design, Preparation, and Applications. 2017 , 71-150	1
256	Desalination. 2019 , 1011-1044	1
255	Encyclopedia of Membranes. 2016 , 66-68	3
254	Hydrogen Separation Membranes of Polymeric Materials. 2017 , 85-116	3
253	Nickel(II) ion-intercalated MXene membranes for enhanced H ₂ /CO ₂ separation. 2021 , 15, 882-891	4
252	Membrane engineering: Latest advancements in gas separation and pre-treatment processes, petrochemical industry and refinery, and future perspectives in emerging applications. 2020 , 206, 106464	55
251	Nanoconfined Fluids: What Can We Expect from Them?. 2020 , 11, 4678-4692	35

250	CHAPTER 4:Application of Carbonaceous Materials in Separation Science. 2015 , 103-126	3
249	Chapter 1:Current State-of-the-art Membrane Based Filtration and Separation Technologies. 2018 , 1-13	4
248	Synthesis and gas permselectivity of CuBTC@PVDF mixed matrix membranes. 2018 , 42, 12013-12023	11
247	Infiltrating molecular gatekeepers with coexisting molecular solubility and 3D-intrinsic porosity into a microporous polymer scaffold for gas separation. 2020 , 8, 6196-6209	27
246	Polymers of Intrinsic Microporosity (PIMs) Gas Separation Membranes: A mini Review. 2,	37
245	Sweetening of Natural Gas through Hollow Silica Nanoparticles Embedded Hydroxyethyl Cellulose Membrane. 2018 , 15, 256-262	2
244	Analysis of Ethanol Dehydration using Membrane Separation Processes. 2020 , 15, 122-132	7
243	New Methods of Natural Gas Adjusting for Technological Purposes Based on Modern Filtration Materials. 2018 , 25, 61-72	3
242	Potential of adsorbents from agricultural wastes as alternative fillers in mixed matrix membrane for gas separation: A review. 2020 , 9, 219-229	4
241	Carbon Capture From Flue Gas and the Atmosphere: A Perspective. 2020 , 8,	34
240	Crosslinked Facilitated Transport Membranes Based on Carboxymethylated NFC and Amine-Based Fixed Carriers for Carbon Capture, Utilization, and Storage Applications. 2020 , 10, 414	6
239	Polyetherimide-Montmorillonite Nano-Hybrid Composite Membranes: CO ₂ Permeance Study via Theoretical Models. 2020 , 8, 118	1
238	Fabrication, Characterization and Performance Study of N-methyl-diethanolamine (MDEA)-Polyethersulfone (PES) Amine Polymeric Membrane for CO ₂ /CH ₄ Separation. 2014 , 14, 1186-1191	7
237	On the Order and Orientation in Liquid Crystalline Polymer Membranes for Gas Separation. 2021 , 33, 8323-8333	3
236	CO ₂ & CH ₄ Capture and Separation Using Ti Doped Vanadium Oxide Nanotube: Molecular Simulation Study. 1-16	1
235	Innovations to decarbonize materials industries.	5
234	The role of topological defects on the mechanical properties of single-walled carbon nanotubes. 1-18	0
233	Molecular investigation on the mechanism of permselective transport of CO ₂ /N ₂ mixture through graphene slit. 2022 , 282, 119986	0

- 232 A review of the features and applications of ZIF-8 and its derivatives for separating CO₂ and isomers of C₃- and C₄- hydrocarbons. **2021**, 96, 104289 6
- 231 Encyclopedia of Membranes. **2012**, 1-2
- 230 Nanotechnology for sustainability: what does nanotechnology offer to address complex sustainability problems?. **2012**, 371-390 2
- 229 Encyclopedia of Membranes. **2014**, 1-2
- 228 Encyclopedia of Membranes. **2014**, 1-3
- 227 Membranes Made of Hardened Cement Paste for Processing Wood Gas Influence of Paste Composition on Separation Factors. **2014**, 199-209
- 226 Chemical Industry and Membrane Operations. **2014**, 1-2
- 225 Encyclopedia of Membranes. **2015**, 1-3
- 224 Poly(ionic liquid)s: Designing CO₂ Separation Membranes. **2015**, 267-295
- 223 Encyclopedia of Membranes. **2015**, 1-3
- 222 Encyclopedia of Membranes. **2015**, 1-2
- 221 Encyclopedia of Membranes. **2016**, 996-997
- 220 Novel Composite Inorganic Ceramic Membranes for Gas Separations and Environmental Applications. **2016**, 59-72
- 219 Encyclopedia of Membranes. **2016**, 479-480
- 218 Encyclopedia of Membranes. **2016**, 1010-1012
- 217 Encyclopedia of Membranes. **2016**, 1009-1010
- 216 Recovery of VOC from Offshore and Onshore Shuttle Tankers Using Structured Y-Type Zeolite Membranes. **2017**, 541-553
- 215 7 Gas Processing, Purification, and Upgrading. **2017**, 435-486

214	Multilayer Polymeric Nano composite Membrane for Oxygen Separation. 1-11	
213	Preparation of hydrophobic flat sheet membranes from PVDF-HFP copolymer for enhancing the oxygen permeance in nitrogen/oxygen gas mixture. 2020 , 28, 1566-1581	5
212	Crosslinked Matrimid [®] -like polyimide membranes with unimodal network structure for enhanced stability and gas separation performance. 2021 , 237, 124323	0
211	Membrane-Permeation Modeling for Carbon Capture from CO ₂ -Rich Natural Gas. 2021 , 143-175	
210	Ultrathin microporous metal-organic network membranes for molecular separation.	1
209	Printed graphene oxide-based membranes for gas separation and carbon capture. 2022 , 430, 132942	4
208	CO ₂ Capture by Alkaline Carbonation as an Alternative to a Circular Economy. 2020 , 10, 863	1
207	Insights into the progress of polymeric nano-composite membranes for hydrogen separation and purification in the direction of sustainable energy resources. 2021 , 120029	2
206	Molecular transport across a two-dimensional nanomesh membrane-graphdiyne. 2020 , 53, 493003	1
205	Gas processing with intrinsically porous 2D membranes. 2022 , 276, 125426	
204	Gas separation and filtration membrane applications of polymer/graphene nanocomposites. 2022 , 197-222	
203	Gas sorption and diffusion in perfluoro(butenyl vinyl ether) based perfluoropolymeric membranes. 2022 , 644, 120095	1
202	Ladder polymers of intrinsic microporosity from superacid-catalyzed Friedel-Crafts polymerization for membrane gas separation. 2022 , 644, 120115	5
201	Highly permeable ZIF-8 membranes for propylene permselective pervaporation under high pressure up to 20 bar. 2022 , 643, 120055	3
200	PIM-1/Holey Graphene Oxide Mixed Matrix Membranes for Gas Separation: Unveiling the Role of Holes. 2021 , 13, 55517-55533	5
199	Synergy of high permeability and selectivity of superbase/choline chloride/urea solution impregnated membranes for CO ₂ capture. 2021 , 100019	2
198	Triple-ligand zeolitic imidazolate frameworks for highly CO ₂ selective mixed matrix membranes. 2021 , 433, 133606	1
197	Synergistic effect of charge and strain engineering on porous g-C ₉ N ₇ nanosheets for highly controllable CO ₂ capture and separation. 2021 , 282, 120135	1

196	Investigation on effect of ionic liquid on CO ₂ separation performance and properties of novel co-casted dual-layer PEBAX-ionic liquid/PES composite membrane. 2021 , 107, 180-180	0
195	Two-Dimensional Polymers and Polymerizations. 2021 ,	24
194	Supramolecular Polymer Network Membranes with Molecular-Sieving Nanocavities for Efficient Pre-Combustion CO Capture.. 2022 , 6, e2101288	3
193	Effects of mesoporous silica particle size and pore structure on the performance of polymer-mesoporous silica mixed matrix membranes.. 2021 , 11, 36577-36586	1
192	Exploring the influence of the cation type and polymer support in bis(fluorosulfonyl)imide-based plastic crystal composite membranes for CO ₂ /N ₂ separation. 2021 , 9, 26330-26344	1
191	Chapter 6: Mixed Matrix Membranes (MMMs) for Gas Separation. 2021 , 137-158	
190	Synthetic Guidelines for Highly Selective Mixed Matrix Membrane.	
189	Chapter 1. Introduction to Functional Membranes. 2021 , 1-27	
188	Comparison of CO Separation Efficiency from Flue Gases Based on Commonly Used Methods and Materials.. 2022 , 15,	7
187	Interfacial co-weaving of AO-PIM-1 and ZIF-8 in composite membranes for enhanced H ₂ purification. 2022 , 645, 120217	
186	Mechanistic insights into the selective mass-transport and fabrication of holey graphene-based membranes for water purification applications. 2022 , 431, 134248	0
185	Synthesis and characterization of polymerizable MOFs for the preparation of MOF/polymer mixed matrix membranes.. 2022 , 3, 101039	0
184	Carbon Dioxide Emissions, Capture, Storage and Utilization: Review of Materials, Processes and Technologies. 2022 , 89, 100965	26
183	Polyimide/ZIFs mixed matrix membranes with tunable interfacial interaction for efficient gas separation. 2022 , 646, 120240	1
182	Preparation of Butadiene-Bridged Polymethylsiloxane/Ethylcellulose/1-Carboxymethyl-3-methylimidazolium Chloride Ternary Composite Membranes for Gas Separation.. 2022 , 7, 3626-3633	
181	Hydrate-Based Separation for Industrial Gas Mixtures. 2022 , 15, 966	1
180	Emerging nanomaterial incorporated membranes for gas separation and pervaporation towards energetic-efficient applications. 2022 , 2, 100015	4
179	Recent Advances of Polymeric Membranes in Tackling Plasticization and Aging for Practical Industrial CO/CH Applications-A Review.. 2022 , 12,	3

178	Study on CO ₂ Adsorption and Permeance of Porous Carbon and Nitrogen Membranes Co-regulated by Charge and Strain. 2022 , 2168, 012002	
177	Large-Area and Crack-free Helium-Sieving Graphene Membranes.	
176	Free-Standing Nanometer-Thick Covalent Organic Framework Films for Separating CO ₂ and N ₂ .	1
175	Study on the advantageous effect of nano-clay and polyurethane on structure and CO ₂ separation performance of polyethersulfone based ternary mixed matrix membranes. 2022 , 179, 27-40	2
174	Advanced methods for analysis of mixed gas diffusion in polymeric membranes. 2022 , 648, 120356	1
173	Mixed Matrix Membranes for Efficient CO Separation Using an Engineered UiO-66 MOF in a Pebax Polymer.. 2022 , 14,	3
172	Separation of CH ₄ /N ₂ gas mixture using MFI zeolite nanosheet: Insights from molecular dynamics simulation. 2022 , 641, 128527	2
171	A Review of the Recent Progress in the Development of Nanocomposites Based on Poly(ether--amide) Copolymers as Membranes for CO Separation.. 2021 , 14,	3
170	Carbon Dioxide Enrichment of PDMS/PSF Composite Membranes for Solving the Greenhouse Effect and Food Crisis.	
169	Modelling of spiral-wound membrane for gas separation: current developments and future direction. 2022 , 391-412	
168	Research Progresses of Metal-organic Framework HKUST-1-Based Membranes in Gas Separations?. 2022 , 80, 340	0
167	Selection-Diffusion-Selection Mechanisms in Ordered Hierarchically-Porous Mof-on-Mof: Zif-8@Nh ₂ -Mil-125 for Efficient Co ₂ Separation.	
166	Introduction to modular process intensification. 2022 , 3-18	
165	Insights on Cryogenic Distillation Technology for Simultaneous CO and HS Removal for Sour Gas Fields.. 2022 , 27,	5
164	A review of techniques to improve performance of metal organic framework (MOF) based mixed matrix membranes for CO ₂ /CH ₄ separation. 1	1
163	n-Octyltrichlorosilane Modified SAPO-34/PDMS Mixed Matrix Membranes for Propane/Nitrogen Mixture Separation. 2022 , 9, 64	2
162	Emerging Separation Applications of Surface Superwettability.. 2022 , 12,	2
161	Mixed-Matrix Ion Gel Membranes for Gas Separation.	4

160	Poly(ionic liquid)s with Dicationic Pendants as Gas Separation Membranes.. 2022 , 12,	0
159	Theoretical and Experimental Studies of CO Absorption in Double-Unit Flat-Plate Membrane Contactors.. 2022 , 12,	
158	Covalent organic frameworks-incorporated thin film composite membranes prepared by interfacial polymerization for efficient CO ₂ separation. 2022 , 43, 152-160	1
157	Membrane modeling for carbon capture by using CFD. 2022 ,	0
156	Post-combustion carbon capture by polymeric membrane: A review. 2022 ,	
155	Separation of isoprene from biologically-derived gas streams. 1-11	
154	Microporous Pentiptycene-Based Polymers with Heterocyclic Rings for High-Performance Gas Separation Membranes. 2022 , 34, 2730-2742	1
153	Synergistic Design of Enhanced π -Interaction and Decarboxylation Cross-Linking of Polyimide Membranes for Natural Gas Separation.	1
152	Mitigated Aging in a Defective Metal-Organic Framework Pillared Polymer of an Intrinsic Porosity Hybrid Membrane for Efficient Gas Separation. 2022 , 10, 3643-3650	1
151	Gas separation membranes obtained by partial pyrolysis of polyimides exhibiting polyethylene oxide moieties. 2022 , 247, 124789	1
150	Fractionation of black liquor using ZnO nanoparticles/PES ultrafiltration membranes: Effect of operating variables. 2022 , 345, 131183	0
149	Enhancing the CO ₂ plasticization resistance of thin polymeric membranes by designing Metal-polymer complexes. 2022 , 289, 120699	0
148	Synthetic guidelines for highly selective mixed matrix membranes. 2022 , 649, 120311	1
147	A review on recent progress in environmental applications of membrane contactor technology. 2022 , 10, 107631	2
146	Evaluation of polymeric membranes' performance during laboratory-scale experiments, regarding the CO separation from CH ₄ .. 2022 , 299, 134224	1
145	Mixed Matrix Membranes Based on Torlon and ZIF-8 for High-Temperature, Size-Selective Gas Separations.. 2021 , 11,	0
144	Enhanced Membrane Performance for Gas Separation by Coupling Effect of the Porous Aromatic Framework (PAF) Incorporation and Photo-Oxidation. <i>Industrial & Engineering Chemistry Research</i> ,	3.9 0
143	Carbon Dioxide Separation by Polyethylene Glycol and Glutamic Acid/Polyvinyl Alcohol Composite Membrane. 2021 , 13, 13367	1

142	Challenges in commercialization of sustainable membranes with FNMs. 2022 , 329-353		
141	Fabrication and prospective applications of graphene oxide-modified nanocomposites for wastewater remediation.. 2022 , 12, 11750-11768		5
140	Valuable energy resources and food-grade CO2 from biogas via membrane separation. 2022 , 437-493		
139	Introduction to the fundamentals of the membrane engineering. 2022 , 3-33		
138	A polyimide/poly(N-vinylimidazole) membrane for CO2/CH4 separation with high selectivity and permeability. 095400832210906		
137	Recent Advances in Polybenzimidazole Membranes for Hydrogen Purification. <i>Industrial & Engineering Chemistry Research</i> ,	3.9	2
136	Theoretical Study of CO2/N2 Gas Mixture Separation through a High-Silica PWN-type Zeolite Membrane. <i>Industrial & Engineering Chemistry Research</i> ,	3.9	2
135	Enhanced adsorption selectivity of 1-hexene / n-hexane mixtures in Cu-BTC metal-organic framework by acid modification. 2022 , 337, 111909		
134	Carbon dioxide enrichment of PDMS/PSF composite membranes for solving the greenhouse effect and food crisis. 2022 , 61, 102011		0
133	Membrane for CO2 separation. 2022 , 121-159		
132	Effects of pore connectivity and tortuosity on the dynamics of fluids confined in sub-nanometer pores.. 2022 ,		0
131	State-of-the-Art and Achievements in the Catalytic Conversion of Natural Gas into Valuable Chemicals. 2022 , 14, 11-30		
130	Design and Economic Evaluation of a Hybrid Membrane Separation Process from Multiple Refinery Gases Using a Graphical Synthesis Method. 2022 , 10, 820		0
129	Polymer-Based Membranes for C3+ Hydrocarbon Removal from Natural Gas.		0
128	Design and prediction of metal organic framework-based mixed matrix membranes for CO2 capture via machine learning. 2022 , 100864		0
127	Study of the Dissolution and Diffusion of Propane, Propylene and Nitrogen in Polydimethylsiloxane Membranes with Molecular Dynamics Simulation and Monte Carlo Simulation. 2022 , 9, 116		1
126	Recent trends of silicon elastomer-based nanocomposites and their sensing applications. 2022 , 29,		0
125	Emerging ionic liquid engineered polymeric membrane for carbon dioxide removal: A review. 2022 , 358, 119192		3

- 124 Efficient separation of He/CH mixture by functionalized graphenylene membranes: A theoretical study.. **2022**, 115, 108211 0
- 123 Status and future trends of hollow fiber biogas separation membrane fabrication and modification techniques.. **2022**, 134959 0
- 122 Processing procedures to extract helium, nitrogen, and carbon dioxide. **2022**, 321-346
- 121 Carbon Nanotubes-Based Mixed Matrix Membranes in Separation Technology. **2022**, 171-221
- 120 Molecular Insight into 6fd Polyimide-Branched Poly(Phenylene) Copolymers: Synthesis, Block Compatibility, Ffv, Morphology, Physical Properties, Gas Separation, and Modeled Gas Transport Study.
- 119 Biopolymer-Based Mixed Matrix Membranes (MMMs) for CO₂/CH₄ Separation: Experimental and Modeling Evaluation. **2022**, 12, 561 1
- 118 Covalent Organic Frameworks-Based Membranes as Promising Modalities from Preparation to Separation Applications: An Overview. 0
- 117 Selection-diffusion-selection mechanisms in ordered hierarchically-porous MOF-on-MOF: ZIF-8@NH₂-MIL-125 for efficient CO₂ separation. **2022**, 108029 0
- 116 MetalOrganic Frameworks for Capturing Carbon Dioxide from Flue Gas. 355-391
- 115 Synthesis and optimization of high-performance amine-based polymer for CO₂ separation. **2022**, 0
- 114 Hydrogen Sulfide Capture and Removal Technologies: A Comprehensive Review of Recent Developments and Emerging Trends. **2022**, 121448 1
- 113 Sustainability and process intensification in wastewater treatment. **2022**, 365-402
- 112 Switching gas permeation through smart membranes by external stimuli: A review. 1
- 111 Selective and simultaneous membrane separation of CO and H₂ from N₂ by protic chlorocuprate ionic liquids. **2022**, 0
- 110 Separation of H₂/CH₄ gas mixture through graphenylene membrane with functionalized nanopore: A computational study. **2022**, 0
- 109 CO₂/CH₄ mixed-gas separation through carbon nitride membrane: A molecular dynamics simulation. **2022**, 650, 129643 2
- 108 Regeneration of Exhausted Palladium-Based Membranes: Recycling Process and Economics. **2022**, 12, 723 0
- 107 Gas permselectivity of novel polypyrroloneSilica hybrid membranes. 0

- 106 Surface modification with cobalt oxide nanocluster for enhanced surface oxygen exchange reactions of GDC-LSCF membrane: fabrication, electrochemical kinetic properties, and stability.
- 105 New sustainable routes for gas separation membranes: The properties of poly(hydroxybutyrate-co-hydroxyvalerate) cast from green solvents. **2022**, 120847 3
- 104 Preparation of semi-alicyclic homo- and blended polyimide membranes using alicyclic dianhydrides with kink structures and their gas separation properties. **2022**, 0
- 103 Recent advances in Poly(ionic liquids) membranes for CO₂ separation. **2022**, 299, 121784 0
- 102 Single-gas and mixed-gas permeation of N₂/CH₄ in thermally-rearranged TR-PBO membranes and their 6FDA-bisAPAF polyimide precursor studied by molecular dynamics simulations. **2022**, 24, 18667-18683 0
- 101 Rapid Upcycling of End-of-Life Microfiltration Membrane Mediated by the Healing of Metal-Organic Complex. **2022**, 10, 9841-9849 2
- 100 Synthesis of new copolyimides containing pyridine and morpholine groups for gas separation through molecular design and simulation.
- 99 Novel magnetic iron-Bickel/poly(ethersulfone) mixed matrix membranes for oxygen separation potential without applying an external magnetic field. **2022**, 12, 1
- 98 PyVaporation: A Python Package for Studying and Modelling Pervaporation Processes. **2022**, 12, 784 0
- 97 Chemical and physical systems for sour gas removal: An overview from reaction mechanisms to industrial implications. **2022**, 104755 1
- 96 Polymers of Intrinsic Microporosity-Molecular Mobility and Physical Aging Revisited by Dielectric Spectroscopy and X-ray Scattering. **2022**, 55, 7340-7350
- 95 Development of highly permselective Mixed Matrix Membranes comprising of polyimide and Ln-MOF for CO₂ capture. **2022**, 307, 136051 0
- 94 Current status and advances in membrane technology for carbon capture. **2022**, 300, 121863 2
- 93 Numerical investigation of the ultrasound-assisted biodiesel transesterification with a polyalcohol. **2022**, 181, 109139 0
- 92 Polyurethane-based gas separation membranes: A review and perspectives. **2022**, 301, 122067 0
- 91 Molecular insight into CO₂/N₂ separation using a 2D-COF supported ionic liquid membrane. **2022**, 24, 23690-23698 0
- 90 Membrane-based filtration technology. **2022**, 117-154 0
- 89 High-Flux Co₂ Separation Using Thin Film Composite Membranes Fabricated by Transient-Filler Treatment. 0

88	Tuning the Gas Separation Performances of Smectic Liquid Crystalline Polymer Membranes by Molecular Engineering. 2022 , 12, 805	2
87	Zein Protein Obtained from Maize as a Novel Biodegradable Membrane Material for Oxygen/Nitrogen Separation: Membrane Fabrication and Characterization.	0
86	Recent Advances in Membrane-Based Biogas and Biohydrogen Upgrading. 2022 , 10, 1918	0
85	Cellulose Triacetate-Based Mixed-Matrix Membranes with MXene 2D Filler—O ₂ /CH ₄ Separation Performance and Comparison with TiO ₂ -Based 1D and 0D Fillers. 2022 , 12, 917	0
84	The Properties, Synthesis, and Materials Applications of 1,4-Dithiins and Thianthrenes.	1
83	Polyurethane-based separation membranes: a review on fabrication techniques, applications, and future prospectives. 2022 ,	0
82	Recent Advances in Supported Ionic Liquid Membrane Technology in Gas/Organic Compounds Separations. 2022 , 26,	0
81	Surfactant functionalised cobalt silica membranes [Gas permeation and thin film positron annihilation lifetime spectroscopy characterisation. 2022 , 121040	0
80	Molecular Order Determines Gas Transport through Smectic Liquid Crystalline Polymer Membranes with Different Chemical Compositions.	0
79	Experimental Proof of a Transformation Product Trap Effect with a Membrane Photocatalytic Process for VOC Removal. 2022 , 12, 900	0
78	A Mini-Review on NH ₃ Separation Technologies: Recent Advances and Future Directions.	0
77	Surface charge enhanced synthesis of TpEB-based covalent organic framework (COF) membrane for dye separation with three typical charge properties. 2022 , 303, 122243	1
76	Thin film nanocomposite membranes of superglassy PIM-1 and amine-functionalised 2D fillers for gas separation.	0
75	Smart membranes for oil/water emulsions separation: A review. 2022 , 2, 100039	1
74	Permeation of Ternary Mixture Containing H ₂ S, CO ₂ and CH ₄ in Aquivion® Perfluorosulfonic Acid (PFSA) Ionomer Membranes. 2022 , 12, 1034	1
73	Pentipitycene-Containing Polybenzoxazole Membranes with a Crosslinked Unimodal Network Structure for High-Temperature Hydrogen Separations.	1
72	Thermally Rearranged Mixed Matrix Membranes from Copoly(o-hydroxyamide)s and Copoly(o-hydroxyamide-amide)s with a Porous Polymer Network as a Filler—A Comparison of Their Gas Separation Performances. 2022 , 12, 998	0
71	Prospects of Polymeric Nanocomposite Membranes for Water Purification and Scalability and their Health and Environmental Impacts: A Review. 2022 , 12, 3637	2

- 70 Strategies to stabilize silver salt in composite Pebax2533 /Ag(NH₃)₂OH and Pebax 2533 [Ag(15-crown-5-ether)] membranes for enhanced ethylene/ethane separation. 1-12 ○
- 69 Nematic liquid crystalline polymer films for gas separation. 1-9 ○
- 68 Plasticization mitigation strategies for gas and liquid filtration membranes - A review. **2022**, 121125 ○
- 67 Two-Dimensional Conjugated Mass Transfer of Carbon Dioxide Absorption in a Hollow-Fiber Gas-Liquid Membrane Contactor. **2022**, 12, 1021 ○
- 66 Progress and challenges in recovering dissolved methane from anaerobic bioreactor permeate using membrane contactors: A comprehensive review. **2022**, 50, 103218 1
- 65 Room-temperature in situ synthesis of MOF@MXene membrane for efficient hydrogen purification. **2022**, 664, 121097 ○
- 64 CO₂ absorption using benzylamine as absorbent and promoter in a hollow fiber membrane contactor: A numerical study. **2022**, 66, 102287 ○
- 63 Relationship between wet coating thickness and nanoparticle loadings based on the performance of mixed matrix composite membranes. **2023**, 667, 121167 ○
- 62 Applying supervised intelligent scenarios to numerical investigate carbon dioxide capture using nanofluids. **2022**, 135088 ○
- 61 Investigation of the effect of pristine and functionalized carbon nanotubes in cellulose acetate butyrate for mixed-gas separation: A molecular simulation study. **2022**, 368, 120788 ○
- 60 High-flux CO₂ separation using thin-film composite polyether block amide membranes fabricated by transient-filler treatment. **2023**, 455, 140883 ○
- 59 A prediction model to predict the thermodynamic conditions of gas hydrates. **2023**, 313, 137550 ○
- 58 Challenge and promise of mixed matrix hollow fiber composite membranes for CO₂ separations. **2023**, 308, 122876 ○
- 57 Issues and challenges in hydrogen separation technologies. **2023**, 9, 894-911 ○
- 56 Fast light-switchable polymeric carbon nitride membranes for tunable gas separation. **2022**, 13, ○
- 55 Challenges and Possibilities of Deep Eutectic Solvent-Based Membranes. **2022**, 61, 17397-17422 2
- 54 Review of Carbon Capture and Methane Production from Carbon Dioxide. **2022**, 13, 1958 ○
- 53 Evaluation of the Efficiency of Polydecylmethylsiloxane in the Separation of a 1-Hexene/Heptanal Mixture. **2022**, 4, 357-366 1

- 52 Reusable Melanin-Based Biosorbents for Efficient Methylene Blue Removal: the New Frontier of Fungi-Inspired Allomelanin Coatings for Sustainable Water Remediation Processes. **2022**, 100283 0
- 51 Membranes Based on PTMSP and Hypercrosslinked Polystyrene for Gas Separation and Thermopervaporative Removal of Volatile Organic Compounds from Aqueous Media. **2022**, 4, 404-413 0
- 50 Development of CO₂-Philic Blended Membranes Using PIMBI and PIMBEG/PPG. 2200596 0
- 49 A Composite Membrane Based on Polydecylmethylsiloxane for the Separation of Hydrocarbons Mixtures at Reduced Temperatures. **2022**, 4, 377-384 0
- 48 Truly combining the advantages of polymeric and zeolite membranes for gas separations. **2022**, 378, 1189-1194 2
- 47 Recent Progress in Silicon Carbide-Based Membranes for Gas Separation. **2022**, 12, 1255 0
- 46 Machine learning for membrane design and discovery. **2022**, 0
- 45 Polymer EVA-OH membrane with improved water/gas separation performance: Influence of VAc/VOH repeating units ratio on membrane physical chemical properties. **2023**, 121386 0
- 44 Molecular Insight into 6FD Polyimide-Branched Poly(phenylene) Copolymers: Synthesis, Block Compatibility, and Gas Transport Study. **2023**, 5, 290-301 0
- 43 Recent advances in membrane-based materials for desalination and gas separation. **2023**, 387, 135845 1
- 42 MOF mixed matrix membranes for syngas purification. **2023**, 307-323 0
- 41 Environmental monitoring and membrane technologies: a possible marriage?. **2023**, 101-135 0
- 40 Novel Design of co-Poly(hydrazide imide) and Its Complex with Cu(I) for Membrane Separation of Methanol/Dimethyl Carbonate Mixture. **2023**, 13, 160 0
- 39 Membrane technology for syngas production. **2023**, 291-304 0
- 38 Intrinsically Microporous Polyimides from Norbornyl Bis-benzocyclobutene-Containing Diamines and Rigid Dianhydrides for Membrane-Based Gas Separation. **2023**, 5, 1420-1429 0
- 37 Advanced Polymeric Nanocomposite Membranes for Water and Wastewater Treatment: A Comprehensive Review. **2023**, 15, 540 0
- 36 Synthesis, characterization, and biodegradation studies of new cellulose-based polymers. **2023**, 13, 1
- 35 Effect of OH-Group Introduction on Gas and Liquid Separation Properties of Polydecylmethylsiloxane. **2023**, 15, 723 0

34	Non-Solvent- and Temperature-Induced Phase Separations of Polylauro lactam Solutions in Benzyl Alcohol as Methods for Producing Microfiltration Membranes. 2023 , 7, 10	0
33	Surface and Structural Characterization of PVTMS Films Treated by Elemental Fluorine in Liquid Perfluorodecalin. 2023 , 16, 913	0
32	Modulation on interlayer channels of LDH/polymer hybrid membranes for efficient CO ₂ separation. 2023 , 618, 156651	0
31	Membrane Separations: from Purifications, Minimisation, Reuse and Recycling to Process Intensification. 2014 , 467-502	0
30	Polymeric membranes and surfaces for CO ₂ capture. 2023 , 17-55	0
29	Ladder Polymers of Intrinsic Microporosity (PIMs). 2023 , 179-218	0
28	Efficient CO ₂ /CH ₄ separation using [Bmim][Ac]/Pebax-1657 supported ionic liquid membranes and its prediction by density functional theory. 2023 , 124, 103856	0
27	Modelling across Multiple Scales to Design Biopolymer Membranes for Sustainable Gas Separations: 1 st Atomistic Approach. 2023 , 15, 1805	0
26	Green Methods for the Fabrication of Graphene Oxide Membranes: From Graphite to Membranes. 2023 , 13, 429	0
25	Adsorption of CO ₂ using biochar - Review of the impact of gas mixtures and water on adsorption. 2023 , 11, 109643	0
24	Partial oxycombustion-calcium looping hybridisation for CO ₂ capture in waste-to-energy power plants. 2023 , 403, 136776	0
23	Direct evaluation of void effect on gas permeation in mixed matrix membrane by non-equilibrium molecular dynamics. 2023 , 677, 121594	0
22	Computational fluid dynamics simulations of membrane gas separation: Overview, challenges and future perspectives. 2023 , 191, 127-140	1
21	New facile process evaluation for membrane-based CO ₂ capture: Apparent selectivity model. 2023 , 460, 141624	1
20	Rational Design of Mixed Matrix Membranes Modulated by Trisilver Complex for Efficient Propylene/Propane Separation. 2023 , 10,	0
19	Membranes for air cleaning. 2023 , 255-293	0
18	Ammonia Production. 2022 , 23-149	0
17	Polyvinyl alcohol-based separation membranes: a comprehensive review on fabrication techniques, applications and future prospective. 2023 , 28, 101381	1

- 16 Investigation on the Performance of CO₂ Absorption in Ceramic Hollow-Fiber Gas/Liquid Membrane Contactors. **2023**, 13, 249 ○
- 15 Application of Biogas and Biomethane as Maritime Fuels: A Review of Research, Technology Development, Innovation Proposals, and Market Potentials. **2023**, 16, 2066 ○
- 14 Cutting-edge technological advancements in biomass-derived hydrogen production. ○
- 13 Planetary cross-linked structure design of hybrid organosilica membrane by amine-driven polymerization for CO₂ separation. **2023**, 398, 136568 1
- 12 How Segmental Dynamics and Mesh Confinement Determine the Selective Diffusivity of Molecules in Cross-Linked Dense Polymer Networks. **2023**, 9, 508-518 ○
- 11 Potentialities of membrane distillation and membrane crystallization. **2023**, 437-461 ○
- 10 Realizing high performance gas filters through nano-particle deposition. **2023**, 25, 9300-9310 ○
- 9 Mixed-Matrix Membranes Containing Porous Materials for Gas Separation: From Metal-Organic Frameworks to Discrete Molecular Cages. **2023**, ○
- 8 Applications of Polyacetylene Derivatives in Gas and Liquid Separation. **2023**, 28, 2748 ○
- 7 Biocatalytic Membranes for Carbon Capture and Utilization. **2023**, 13, 367 1
- 6 Efficient helium separation through SIFSIX-3-Cu membrane: A molecular dynamics study. **2023**, 223, 112143 ○
- 5 Applicability of Composite Magnetic Membranes in Separation Processes of Gaseous and Liquid Mixtures: A Review. **2023**, 13, 384 ○
- 4 Improved Homogeneous-Heterogeneous Kinetic Mechanism Using a Langmuir-Hinshelwood-Based Microkinetic Model for High-Pressure Oxidative Coupling of Methane. **2023**, 62, 5826-5838 ○
- 3 Prospects for using membrane reactors for hydroformylation. **2023**, 72, 393-403 ○
- 2 Polyurethane-based membranes for CO₂ separation: A comprehensive review. **2023**, 97, 101095 ○
- 1 Functionalized nanofibrous mats for gas separation applications. **2023**, 579-615 ○