

Tae-Hyun Bae

List of Publications by Year in descending order

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107
papers

13,523
citations

61687

45
h-index

29333

108
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109
all docs

109
docs citations

109
times ranked

14879
citing authors

#	ARTICLE	IF	CITATIONS
1	Recent advances of nanoporous adsorbents for light hydrocarbon (C1 – C3) separation. <i>Chemical Engineering Journal</i> , 2022, 430, 132654.	6.6	25
2	3D-printed monolithic porous adsorbents from a solution-processible, hypercrosslinkable, functionalizable polymer. <i>Chemical Engineering Journal</i> , 2022, 427, 130883.	6.6	15
3	Effective functionalization of porous polymer fillers to enhance CO ₂ /N ₂ separation performance of mixed-matrix membranes. <i>Journal of Membrane Science</i> , 2022, 647, 120309.	4.1	25
4	Polybenzimidazole Membrane Crosslinked with Epoxy-Containing Inorganic Networks for Organic Solvent Nanofiltration and Aqueous Nanofiltration under Extreme Basic Conditions. <i>Membranes</i> , 2022, 12, 140.	1.4	10
5	Recent Advances in Mixed-Matrix Membranes for Light Hydrocarbon (C1 – C3) Separation. <i>Membranes</i> , 2022, 12, 201.	1.4	7
6	Synergistic effect of highly porous microstructured support and co-solvent assisted interfacial polymerization on the performance of thin-film composite FO membranes. <i>Desalination</i> , 2022, 539, 115947.	4.0	13
7	Potential of adsorbents and membranes for SF ₆ capture and recovery: A review. <i>Chemical Engineering Journal</i> , 2021, 404, 126577.	6.6	49
8	Wetting- and fouling-resistant hollow fiber membranes for dissolved methane recovery from anaerobic wastewater treatment effluents. <i>Journal of Membrane Science</i> , 2021, 617, 118621.	4.1	15
9	Thin film composite hollow fibre membrane for pharmaceutical concentration and solvent recovery. <i>Journal of Membrane Science</i> , 2021, 621, 119008.	4.1	43
10	Graphene-Based Advanced Membrane Applications in Organic Solvent Nanofiltration. <i>Advanced Functional Materials</i> , 2021, 31, 2006949.	7.8	81
11	Membrane Contactors for Maximizing Biomethane Recovery in Anaerobic Wastewater Treatments: Recent Efforts and Future Prospect. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 1372.	1.3	7
12	Tear-Based Aqueous Batteries for Smart Contact Lenses Enabled by Prussian Blue Analogue Nanocomposites. <i>Nano Letters</i> , 2021, 21, 1659-1665.	4.5	22
13	High-performance porous carbon-zeolite mixed-matrix membranes for CO ₂ /N ₂ separation. <i>Journal of Membrane Science</i> , 2021, 622, 119031.	4.1	37
14	Carbon Molecular Sieve Membranes Comprising Graphene Oxides and Porous Carbon for CO ₂ /N ₂ Separation. <i>Membranes</i> , 2021, 11, 284.	1.4	14
15	Use of rigid cucurbit[6]uril mediating selective water transport as a potential remedy to improve the permselectivity and durability of reverse osmosis membranes. <i>Journal of Membrane Science</i> , 2021, 623, 119017.	4.1	18
16	Enhanced Performance of Carbon Molecular Sieve Membranes Incorporating Zeolite Nanocrystals for Air Separation. <i>Membranes</i> , 2021, 11, 489.	1.4	17
17	Copper Hexacyanoferrate Thin Film Deposition and Its Application to a New Method for Diffusion Coefficient Measurement. <i>Nanomaterials</i> , 2021, 11, 1860.	1.9	3
18	Emerging Materials for Mixed-Matrix Membranes. <i>Membranes</i> , 2021, 11, 746.	1.4	2

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19	Carbon nanotubes integrated into polyamide membranes by support pre-filtration improve the desalination performance. Carbon, 2021, 185, 546-557.	5.4	14
20	Scaling-up defect-free asymmetric hollow fiber membranes to produce oxygen-enriched gas for integration into municipal solid waste gasification process. Journal of Membrane Science, 2021, 640, 119787.	4.1	9
21	Polyamine-Appended Porous Organic Copolymers with Controlled Structural Properties for Enhanced CO ₂ Capture. ACS Sustainable Chemistry and Engineering, 2021, 9, 2017-2026.	3.2	23
22	Thin-film composite hollow fibre membrane for low pressure organic solvent nanofiltration. Journal of Membrane Science, 2020, 597, 117760.	4.1	49
23	CO ₂ Absorption Using Membrane Contactors: Recent Progress and Future Perspective. Industrial & Engineering Chemistry Research, 2020, 59, 6773-6794.	1.8	66
24	Nanosizing zeolite 5A fillers in mixed-matrix carbon molecular sieve membranes to improve gas separation performance. Chemical Engineering Journal Advances, 2020, 2, 100016.	2.4	18
25	Evaluation of porous adsorbents for CO ₂ capture under humid conditions: The importance of recyclability. Chemical Engineering Journal Advances, 2020, 3, 100021.	2.4	17
26	Graphene-based Membranes for H ₂ Separation: Recent Progress and Future Perspective. Membranes, 2020, 10, 336.	1.4	25
27	CO ₂ /N ₂ Separation Properties of Polyimide-Based Mixed-Matrix Membranes Comprising UiO-66 with Various Functionalities. Membranes, 2020, 10, 154.	1.4	35
28	Enhanced water permeability and osmotic power generation with sulfonate-functionalized porous polymer-incorporated thin film nanocomposite membranes. Desalination, 2020, 496, 114756.	4.0	26
29	Metallicity-Dependent Ultrafast Water Transport in Carbon Nanotubes. Small, 2020, 16, e1907575.	5.2	23
30	MXene Materials for Designing Advanced Separation Membranes. Advanced Materials, 2020, 32, e1906697.	11.1	295
31	Influences of operating parameters and membrane characteristics on the net energy production in dense, porous, and composite hollow fiber membrane contactors for dissolved biomethane recovery. Journal of Membrane Science, 2020, 610, 118301.	4.1	13
32	Covalent organic framework incorporated outer-selective hollow fiber thin-film nanocomposite membranes for osmotically driven desalination. Desalination, 2020, 485, 114461.	4.0	31
33	The influence of cations intercalated in graphene oxide membranes in tuning H ₂ /CO ₂ separation performance. Separation and Purification Technology, 2020, 246, 116933.	3.9	29
34	Highly durable covalent organic framework for the simultaneous ultrasensitive detection and removal of noxious Hg ²⁺ . Microporous and Mesoporous Materials, 2020, 306, 110399.	2.2	31
35	Feasibility and performance of a thin-film composite seawater reverse osmosis membrane fabricated on a highly porous microstructured support. Journal of Membrane Science, 2020, 611, 118407.	4.1	34
36	Highly efficient carbon dioxide capture in diethylenetriamine-appended porous organic polymers: Investigation of structural variations of chloromethyl monomers. Journal of Industrial and Engineering Chemistry, 2020, 88, 207-214.	2.9	17

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37	Leveraging Nanocrystal HKUST-1 in Mixed-Matrix Membranes for Ethylene/Ethane Separation. <i>Membranes</i> , 2020, 10, 74.	1.4	33
38	Realizing small-flake graphene oxide membranes for ultrafast size-dependent organic solvent nanofiltration. <i>Science Advances</i> , 2020, 6, eaaz9184.	4.7	177
39	Enhanced O ₂ /N ₂ Separation of Mixed-Matrix Membrane Filled with Pluronic-Compatibilized Cobalt Phthalocyanine Particles. <i>Membranes</i> , 2020, 10, 75.	1.4	20
40	Asymmetric mixed-matrix membranes incorporated with nitrogen-doped graphene nanosheets for highly selective gas separation. <i>Journal of Membrane Science</i> , 2020, 615, 118293.	4.1	32
41	Hierarchical 5A Zeolite-Containing Carbon Molecular Sieve Membranes for O ₂ /N ₂ Separation. <i>Membrane Journal</i> , 2020, 30, 260-268.	0.2	6
42	Scalable fabrication of graphene-based laminate membranes for liquid and gas separations by crosslinking-induced gelation and doctor-blade casting. <i>Carbon</i> , 2019, 155, 129-137.	5.4	40
43	Graphene-Based Membranes for CO ₂ /CH ₄ Separation: Key Challenges and Perspectives. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 2784.	1.3	29
44	Influence of membrane characteristics and operating parameters on transport properties of dissolved methane in a hollow fiber membrane contactor for biogas recovery from anaerobic effluents. <i>Journal of Membrane Science</i> , 2019, 589, 117263.	4.1	33
45	Mixed-matrix carbon molecular sieve membranes using hierarchical zeolite: A simple approach towards high CO ₂ permeability enhancements. <i>Journal of Membrane Science</i> , 2019, 588, 117220.	4.1	40
46	A review on polymer-based membranes for gas-liquid membrane contacting processes: Current challenges and future direction. <i>Separation and Purification Technology</i> , 2019, 229, 115791.	3.9	86
47	Sub-Ångström-level engineering of ultramicroporous carbons for enhanced sulfur hexafluoride capture. <i>Carbon</i> , 2019, 155, 56-64.	5.4	22
48	Enhancing the CO ₂ separation performance of polymer membranes via the incorporation of amine-functionalized HKUST-1 nanocrystals. <i>Microporous and Mesoporous Materials</i> , 2019, 290, 109680.	2.2	45
49	PDMS-coated porous PVDF hollow fiber membranes for efficient recovery of dissolved biomethane from anaerobic effluents. <i>Journal of Membrane Science</i> , 2019, 584, 333-342.	4.1	44
50	Incorporation of Cu ₃ BTC ₂ nanocrystals to increase the permeability of polymeric membranes in O ₂ /N ₂ separation. <i>BMC Chemical Engineering</i> , 2019, 1, .	3.4	19
51	Incorporation of CoIII acetylacetonate and SNW-1 nanoparticles to tailor O ₂ /N ₂ separation performance of mixed-matrix membrane. <i>Separation and Purification Technology</i> , 2019, 223, 133-141.	3.9	44
52	A comprehensive understanding of co-solvent effects on interfacial polymerization: Interaction with trimesoyl chloride. <i>Journal of Membrane Science</i> , 2019, 583, 70-80.	4.1	56
53	Melamine-based covalent organic framework-incorporated thin film nanocomposite membrane for enhanced osmotic power generation. <i>Desalination</i> , 2019, 459, 10-19.	4.0	72
54	Enhanced CO ₂ /CH ₄ selectivity and mechanical strength of mixed-matrix membrane incorporated with NiDOBDC/GO composite. <i>Journal of Industrial and Engineering Chemistry</i> , 2019, 74, 118-125.	2.9	38

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55	The effect of Schiff base network on the separation performance of thin film nanocomposite forward osmosis membranes. <i>Separation and Purification Technology</i> , 2019, 217, 284-293.	3.9	26
56	Fouling formation in membrane contactors for methane recovery from anaerobic effluents. <i>Journal of Membrane Science</i> , 2019, 573, 534-543.	4.1	42
57	3D covalent organic framework for morphologically induced high-performance membranes with strong resistance toward physical aging. <i>Journal of Membrane Science</i> , 2019, 574, 235-242.	4.1	51
58	Polyamine-appended porous organic polymers for efficient post-combustion CO ₂ capture. <i>Chemical Engineering Journal</i> , 2019, 358, 1227-1234.	6.6	71
59	Enhancing the mechanical strength and CO ₂ /CH ₄ separation performance of polymeric membranes by incorporating amine-appended porous polymers. <i>Journal of Membrane Science</i> , 2019, 569, 149-156.	4.1	32
60	Energy analysis and optimization of hollow fiber membrane contactors for recovery of dissolve methane from anaerobic membrane bioreactor effluent. <i>Journal of Membrane Science</i> , 2018, 554, 184-194.	4.1	48
61	Tailoring CO ₂ /CH ₄ separation properties of mixed-matrix membranes via combined use of two- and three-dimensional metal-organic frameworks. <i>Journal of Membrane Science</i> , 2018, 557, 30-37.	4.1	63
62	Separation of Acetylene from Carbon Dioxide and Ethylene by a Water-Stable Microporous Metal-Organic Framework with Aligned Imidazolium Groups inside the Channels. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 7869-7873.	7.2	218
63	Nanocomposites formed by in situ growth of NiDOBDC nanoparticles on graphene oxide sheets for enhanced CO ₂ and H ₂ storage. <i>Microporous and Mesoporous Materials</i> , 2018, 265, 35-42.	2.2	31
64	High-performance reverse osmosis membranes fabricated on highly porous microstructured supports. <i>Desalination</i> , 2018, 436, 48-55.	4.0	40
65	Enhanced SF ₆ recovery by hierarchically structured MFI zeolite. <i>Journal of Industrial and Engineering Chemistry</i> , 2018, 62, 64-71.	2.9	32
66	Optimization of hydrophobic modification parameters of microporous polyvinylidene fluoride hollow-fiber membrane for biogas recovery from anaerobic membrane bioreactor effluent. <i>Journal of Membrane Science</i> , 2018, 548, 510-518.	4.1	48
67	High performance composite membranes comprising Zn(pyrz) ₂ (SiF ₆) nanocrystals for CO ₂ /CH ₄ separation. <i>Journal of Industrial and Engineering Chemistry</i> , 2018, 60, 279-285.	2.9	45
68	Membrane-based technologies for post-treatment of anaerobic effluents. <i>Npj Clean Water</i> , 2018, 1, .	3.1	30
69	Hierarchically Porous Co-MOF-74 Hollow Nanorods for Enhanced Dynamic CO ₂ Separation. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 43316-43322.	4.0	69
70	Hierarchically porous polymers containing triphenylamine for enhanced SF ₆ separation. <i>Microporous and Mesoporous Materials</i> , 2018, 272, 232-240.	2.2	27
71	Enhancing CO ₂ /CH ₄ separation performance and mechanical strength of mixed-matrix membrane via combined use of graphene oxide and ZIF-8. <i>Journal of Industrial and Engineering Chemistry</i> , 2018, 67, 156-163.	2.9	75
72	Harnessing Filler Materials for Enhancing Biogas Separation Membranes. <i>Chemical Reviews</i> , 2018, 118, 8655-8769.	23.0	239

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73	Robust microporous organic copolymers containing triphenylamine for high pressure CO ₂ capture application. <i>Journal of CO₂ Utilization</i> , 2017, 19, 214-220.	3.3	36
74	High-performance nanocomposite membranes realized by efficient molecular sieving with CuBDC nanosheets. <i>Chemical Communications</i> , 2017, 53, 4254-4257.	2.2	116
75	Hierarchically Structured HKUST-1 Nanocrystals for Enhanced SF ₆ Capture and Recovery. <i>Journal of Physical Chemistry C</i> , 2017, 121, 6748-6755.	1.5	74
76	Polymer-based membranes for solvent-resistant nanofiltration: A review. <i>Chinese Journal of Chemical Engineering</i> , 2017, 25, 1653-1675.	1.7	76
77	Polymer-fluorinated silica composite hollow fiber membranes for the recovery of biogas dissolved in anaerobic effluent. <i>Journal of Membrane Science</i> , 2017, 540, 146-154.	4.1	46
78	Transport properties of CO ₂ and CH ₄ in hollow fiber membrane contactor for the recovery of biogas from anaerobic membrane bioreactor effluent. <i>Journal of Membrane Science</i> , 2017, 541, 62-72.	4.1	42
79	Mixed-matrix membranes containing inorganically surface-modified 5A zeolite for enhanced CO ₂ /CH ₄ separation. <i>Microporous and Mesoporous Materials</i> , 2017, 237, 82-89.	2.2	62
80	Hierarchical Zeolites with Amine-Functionalized Mesoporous Domains for Carbon Dioxide Capture. <i>ChemSusChem</i> , 2016, 9, 455-461.	3.6	71
81	Amine-Appended Hierarchical Ca Zeolite for Enhancing CO ₂ /CH ₄ Selectivity of Mixed-Matrix Membranes. <i>ChemPhysChem</i> , 2016, 17, 3165-3169.	1.0	29
82	Carbon nanomaterials for advancing separation membranes: A strategic perspective. <i>Carbon</i> , 2016, 109, 694-710.	5.4	189
83	Polyamide-imide hollow fiber membranes crosslinked with amine-appended inorganic networks for application in solvent-resistant nanofiltration under low operating pressure. <i>Journal of Membrane Science</i> , 2016, 501, 152-160.	4.1	74
84	Application of a High-Throughput Analyzer in Evaluating Solid Adsorbents for Post-Combustion Carbon Capture via Multicomponent Adsorption of CO ₂ , N ₂ , and H ₂ O. <i>Journal of the American Chemical Society</i> , 2015, 137, 4787-4803.	6.6	305
85	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. <i>Journal of Membrane Science</i> , 2015, 495, 169-175.	4.1	57
86	The rheology of suspensions of porous zeolite particles in polymer solutions. <i>Rheologica Acta</i> , 2014, 53, 133-141.	1.1	5
87	CO ₂ /N ₂ separations with mixed-matrix membranes containing Mg ₂ (dobdc) nanocrystals. <i>Energy and Environmental Science</i> , 2013, 6, 3565.	15.6	190
88	Evaluation of cation-exchanged zeolite adsorbents for post-combustion carbon dioxide capture. <i>Energy and Environmental Science</i> , 2013, 6, 128-138.	15.6	332
89	Modification of the Mg/DOBDC MOF with Amines to Enhance CO ₂ Adsorption from Ultradilute Gases. <i>Journal of Physical Chemistry Letters</i> , 2012, 3, 1136-1141.	2.1	273
90	Structure-Property Relationships of Inorganically Surface-Modified Zeolite Molecular Sieves for Nanocomposite Membrane Fabrication. <i>Journal of Physical Chemistry C</i> , 2012, 116, 9636-9645.	1.5	41

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91	Carbon Dioxide Capture in Metal-Organic Frameworks. <i>Chemical Reviews</i> , 2012, 112, 724-781.	23.0	5,612
92	Formation of Mg(OH) ₂ nanowhiskers on LTA zeolite surfaces using a sol-gel method. <i>Journal of Sol-Gel Science and Technology</i> , 2011, 60, 189-197.	1.1	6
93	CO ₂ -CH ₄ permeation in high zeolite 4A loading mixed matrix membranes. <i>Journal of Membrane Science</i> , 2011, 367, 197-203.	4.1	157
94	Solvothermal deposition and characterization of magnesium hydroxide nanostructures on zeolite crystals. <i>Microporous and Mesoporous Materials</i> , 2011, 139, 120-129.	2.2	51
95	A High-Performance Gas Separation Membrane Containing Submicrometer-Sized Metal-Organic Framework Crystals. <i>Angewandte Chemie - International Edition</i> , 2010, 49, 9863-9866.	7.2	603
96	Butane isomer transport properties of 6FDA-DAM and MFI-6FDA-DAM mixed matrix membranes. <i>Journal of Membrane Science</i> , 2009, 343, 157-163.	4.1	59
97	Role of Lewis Basicity and van der Waals Forces in Adhesion of Silica MFI Zeolites (010) with Polyimides. <i>Langmuir</i> , 2009, 25, 9101-9107.	1.6	20
98	Facile High-Yield Solvothermal Deposition of Inorganic Nanostructures on Zeolite Crystals for Mixed Matrix Membrane Fabrication. <i>Journal of the American Chemical Society</i> , 2009, 131, 14662-14663.	6.6	115
99	Functionalization of the Internal Surface of Pure-Silica MFI Zeolite with Aliphatic Alcohols. <i>Journal of Physical Chemistry C</i> , 2008, 112, 3543-3551.	1.5	56
100	Preparation and characterization of fouling-resistant TiO ₂ self-assembled nanocomposite membranes. <i>Journal of Membrane Science</i> , 2006, 275, 1-5.	4.1	191
101	Influence of sludge retention time on membrane fouling and bioactivities in membrane bioreactor system. <i>Process Biochemistry</i> , 2005, 40, 2393-2400.	1.8	168
102	Effect of TiO ₂ nanoparticles on fouling mitigation of ultrafiltration membranes for activated sludge filtration. <i>Journal of Membrane Science</i> , 2005, 249, 1-8.	4.1	421
103	Interpretation of fouling characteristics of ultrafiltration membranes during the filtration of membrane bioreactor mixed liquor. <i>Journal of Membrane Science</i> , 2005, 264, 151-160.	4.1	202
104	Preparation of TiO self-assembled polymeric nanocomposite membranes and examination of their fouling mitigation effects in a membrane bioreactor system. <i>Journal of Membrane Science</i> , 2005, 266, 1-5.	4.1	128
105	Membrane sequencing batch reactor system for the treatment of dairy industry wastewater. <i>Process Biochemistry</i> , 2003, 39, 221-231.	1.8	80
106	The behavior of membrane fouling initiation on the crossflow membrane bioreactor system. <i>Journal of Membrane Science</i> , 2002, 203, 103-113.	4.1	99
107	Fouling control in activated sludge submerged hollow fiber membrane bioreactors. <i>Desalination</i> , 2002, 143, 219-228.	4.0	258