Xuehua Ruan

List of Publications by Year
in descending order

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Version: 2024-02-01

		172207	243296
88	2,479	29	44
papers	citations	h-index	g-index

89	89	89	1963
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Imidazole functionalized graphene oxide/PEBAX mixed matrix membranes for efficient CO2 capture. Separation and Purification Technology, 2016, 166, 171-180.	3.9	150
2	A novel imidazolium-based amphoteric membrane for high-performance vanadium redox flow battery. Journal of Membrane Science, 2017, 544, 98-107.	4.1	96
3	Novel Triple Tertiary Amine Polymer-Based Hydrogen Bond Network Inducing Highly Efficient Proton-Conducting Channels of Amphoteric Membranes for High-Performance Vanadium Redox Flow Battery. ACS Applied Materials & Interfaces, 2019, 11, 5003-5014.	4.0	91
4	Hydrophilic side chain assisting continuous ion-conducting channels for anion exchange membranes. Journal of Membrane Science, 2018, 552, 286-294.	4.1	71
5	Superhydrophobic polypropylene membrane with fabricated antifouling interface for vacuum membrane distillation treating high concentration sodium/magnesium saline water. Journal of Membrane Science, 2019, 579, 240-252.	4.1	66
6	Amino-functional ZIF-8 nanocrystals by microemulsion based mixed linker strategy and the enhanced CO2/N2 separation. Separation and Purification Technology, 2020, 236, 116209.	3.9	65
7	Bioinspired Hybrid Micro/Nanostructure Composited Membrane with Intensified Mass Transfer and Antifouling for High Saline Water Membrane Distillation. ACS Nano, 2020, 14, 17376-17386.	7.3	64
8	Quaternary phosphonium-functionalized poly(ether ether ketone) as highly conductive and alkali-stable hydroxide exchange membrane for fuel cells. Journal of Membrane Science, 2014, 466, 220-228.	4.1	63
9	Pressure swing adsorption/membrane hybrid processes for hydrogen purification with a high recovery. Frontiers of Chemical Science and Engineering, 2016, 10, 255-264.	2.3	62
10	Enhanced performance of superhydrophobic polypropylene membrane with modified antifouling surface for high salinity water treatment. Separation and Purification Technology, 2019, 214, 11-20.	3.9	62
11	Long-branched and densely functionalized anion exchange membranes for fuel cells. Journal of Membrane Science, 2019, 581, 82-92.	4.1	61
12	Ionic liquid tuning nanocage size of MOFs through a two-step adsorption/infiltration strategy for enhanced gas screening of mixed-matrix membranes. Journal of Membrane Science, 2020, 605, 118101.	4.1	59
13	Novel piperidinium functionalized anionic membrane for alkaline polymer electrolysis with excellent electrochemical properties. Journal of Membrane Science, 2019, 581, 283-292.	4.1	55
14	Constructing low-resistance and high-selectivity transport multi-channels in mixed matrix membranes for efficient CO2 separation. Journal of Membrane Science, 2021, 624, 119046.	4.1	53
15	ZIF-8 hollow nanotubes based mixed matrix membranes with high-speed gas transmission channel to promote CO2/N2 separation. Journal of Membrane Science, 2021, 630, 119323.	4.1	53
16	â€œFishnet-likeâ€•ion-selective nanochannels in advanced membranes for flow batteries. Journal of Materials Chemistry A, 2019, 7, 21112-21119.	5.2	50
17	ZIFs-modified GO plates for enhanced CO2 separation performance of ethyl cellulose based mixed matrix membranesf. Separation and Purification Technology, 2019, 214, 87-94.	3.9	50
18	Effect of Hydrogen-Bonding Interaction on the Arrangement and Dynamics of Water Confined in a Polyamide Membrane: A Molecular Dynamics Simulation. Journal of Physical Chemistry B, 2018, 122, 4719-4728.	1.2	49

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19	Membrane assisted cooling crystallization: Process model, nucleation, metastable zone, and crystal size distribution. AICHE Journal, 2016, 62, 829-841.	1.8	46
20	Twisted ether-free polymer based alkaline membrane for high-performance water electrolysis. Journal of Power Sources, 2020, 480, 228805.	4.0	46
21	A novel long-side-chain sulfonated poly(2,6-dimethyl-1,4-phenylene oxide) membrane for vanadium redox flow battery. International Journal of Hydrogen Energy, 2018, 43, 301-310.	3.8	43
22	Long-spacer-chain imidazolium functionalized poly(ether ether ketone) as hydroxide exchange membrane for fuel cell. International Journal of Hydrogen Energy, 2016, 41, 14982-14990.	3.8	40
23	Understanding of imidazolium group hydration and polymer structure for hydroxide anion conduction in hydrated imidazolium-g-PPO membrane by molecular dynamics simulations. Chemical Engineering Science, 2018, 192, 1167-1176.	1.9	40
24	Constructing a rigid crosslinked structure for enhanced conductivity of imidazolium functionalized polysulfone hydroxide exchange membrane. International Journal of Hydrogen Energy, 2016, 41, 10923-10934.	3.8	36
25	Vesicles-shaped MOF-based mixed matrix membranes with intensified interfacial affinity and CO2 transport freeway. Chemical Engineering Journal, 2021, 414, 128807.	6.6	36
26	Stretched ZIF-8@GO flake-like fillers via pre-Zn(II)-doping strategy to enhance CO2 permeation in mixed matrix membranes. Journal of Membrane Science, 2020, 601, 117934.	4.1	35
27	High solvent resistance PTFPMS/PEI hollow fiber composite membrane for gas separation. Applied Surface Science, 2016, 360, 164-173.	3.1	31
28	Prestructured<scp>MXene</scp>fillers with uniform channels to enhance<scp>CO₂</scp>selective permeation in mixed matrix membranes. Journal of Applied Polymer Science, 2021, 138, 49895.	1.3	31
29	Constructing MOF-doped two-dimensional composite material ZIF-90@C3N4 mixed matrix membranes for CO2/N2 separation. Separation and Purification Technology, 2022, 280, 119803.	3.9	31
30	A novel hollow fiber membraneâ€assisted antisolvent crystallization for enhanced mass transfer process control. AICHE Journal, 2019, 65, 734-744.	1.8	29
31	Polyethyleneimineâ€grafted membranes for simultaneously adsorbing heavy metal ions and rejecting suspended particles in wastewater. AICHE Journal, 2017, 63, 4541-4548.	1.8	28
32	Membrane-based separation technologies: from polymeric materials to novel process: an outlook from China. Reviews in Chemical Engineering, 2019, 36, 67-105.	2.3	28
33	A novel membrane distillation response technology for nucleation detection, metastable zone width measurement and analysis. Chemical Engineering Science, 2015, 134, 671-680.	1.9	27
34	Interfaceâ€based crystal particle autoselection via membrane crystallization: From scaling to process control. AICHE Journal, 2019, 65, 723-733.	1.8	27
35	A multi-objective optimization strategy of steam power system to achieve standard emission and optimal economic by NSGA-â…¡. Energy, 2021, 232, 120953.	4.5	27
36	Molecular dynamics simulation of the hydration structure and hydrogen bonding behavior of phenol in aqueous solution. Journal of Molecular Liquids, 2016, 221, 942-948.	2.3	26

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37	Hydrophilic/hydrophobic-bi-comb-shaped amphoteric membrane for vanadium redox flow battery. Journal of Membrane Science, 2020, 608, 118179.	4.1	26
38	Bis-ammonium immobilized polystyrenes with co-catalyzing functional end groups as efficient and reusable heterogeneous catalysts for synthesis of cyclic carbonate from CO₂ and epoxides. RSC Advances, 2016, 6, 2217-2224.	1.7	25
39	Hydration structures of vanadium/oxovanadium cations in the presence of sulfuric acid: A molecular dynamics simulation study. Chemical Engineering Science, 2019, 195, 683-692.	1.9	25
40	Modeling and simulation of mitigating membrane fouling under a baffle-filled turbulent flow with permeate boundary. Separation and Purification Technology, 2017, 179, 13-24.	3.9	24
41	Improvement of alkaline stability for hydroxide exchange membranes by the interactions between strongly polar nitrile groups and functional cations. Journal of Membrane Science, 2017, 533, 121-129.	4.1	23
42	3D hollow CoNi-LDH nanocages based MMMs with low resistance and CO2-philic transport channel to boost CO2 capture. Journal of Membrane Science, 2022, 653, 120542.	4.1	23
43	ZIF-8 heterogeneous nucleation and growth mechanism on Zn(II)-doped polydopamine for composite membrane fabrication. Separation and Purification Technology, 2019, 214, 95-103.	3.9	22
44	PAN electrospun nanofiber skeleton induced MOFs continuous distribution in MMMs to boost CO2 capture. Journal of Membrane Science, 2022, 650, 120330.	4.1	22
45	Enhancing mechanical stability and uniformity of 2-D continuous ZIF-8 membranes by Zn(II)-doped polydopamine modification. Journal of Membrane Science, 2017, 541, 101-107.	4.1	21
46	Hybrid Control Mechanism of Crystal Morphology Modification for Ternary Solution Treatment via Membrane Assisted Crystallization. Crystal Growth and Design, 2018, 18, 934-943.	1.4	21
47	The control and optimization of macro/micro-structure of ion conductive membranes for energy conversion and storage. Chinese Journal of Chemical Engineering, 2016, 24, 558-571.	1.7	19
48	Molecular dynamics study of confined structure and diffusion of hydrated proton in HyfionÂ® perfluorosulfonic acid membranes. Chemical Engineering Science, 2017, 158, 234-244.	1.9	19
49	Tailored Robust Hydrogel Composite Membranes for Continuous Protein Crystallization with Ultrahigh Morphology Selectivity. ACS Applied Materials & Interfaces, 2018, 10, 26653-26661.	4.0	19
50	Novel and versatile PEI modified ZIF-8 hollow nanotubes to construct CO2 facilitated transport pathway in MMMs. Separation and Purification Technology, 2022, 289, 120768.	3.9	19
51	Synergy of CO 2 removal and light hydrocarbon recovery from oil-field associated gas by dual-membrane process. Journal of Natural Gas Science and Engineering, 2015, 26, 1254-1263.	2.1	18
52	Fabrication of defect-free MatrimidÂ® asymmetric membranes and the elevated temperature application for N2/SF6 separation. Journal of Membrane Science, 2019, 577, 258-265.	4.1	17
53	Structural characteristics of hydrated protons in the conductive channels: effects of confinement and fluorination studied by molecular dynamics simulation. Physical Chemistry Chemical Physics, 2016, 18, 24198-24209.	1.3	15
54	Dual-Membrane Module and Its Optimal Flow Pattern for H₂/CO₂ Separation. Industrial & Engineering Chemistry Research, 2016, 55, 1064-1075.	1.8	15

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55	Structural Characteristics of Hydrated Protons in Ion Conductive Channels: Synergistic Effect of the Sulfonate Group and Fluorine Studied by Molecular Dynamics Simulation. Journal of Physical Chemistry C, 2018, 122, 1982-1989.	1.5	14
56	Visual study and simulation of interfacial liquid layer mass transfer in membrane-assisted antisolvent crystallization. Chemical Engineering Science, 2020, 228, 116003.	1.9	14
57	Cleaner recovery of tetrafluoroethylene by coupling residue-recycled polyimide membrane unit to distillation. Separation and Purification Technology, 2014, 124, 89-98.	3.9	13
58	Membrane-Assisted Antisolvent Crystallization: Interfacial Mass-Transfer Simulation and Multistage Process Control. Industrial & Engineering Chemistry Research, 2020, 59, 10160-10171.	1.8	13
59	Chemical potential analysis for directing the optimal design of gas membrane separation frameworks. Chemical Engineering Science, 2014, 107, 245-255.	1.9	12
60	Effective reclamation of vent gas in ethylbenzene dehydrogenation by coupling multi-stage circle absorption and membrane units. Separation and Purification Technology, 2016, 168, 265-274.	3.9	12
61	Graphic synthesis method for multi-technique integration separation sequences of multi-input refinery gases. Separation and Purification Technology, 2019, 214, 187-195.	3.9	12
62	Covalent/ionic co-crosslinking constructing ultra-densely functionalized ether-free poly(biphenylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 359, 136879.	2.6	12
63	A Novel Process of H2/CO2 Membrane Separation of Shifted Syngas Coupled with Gasoil Hydrogenation. Processes, 2020, 8, 590.	1.3	12
64	Na+/Mg2+ interactions on membrane distillation permeation flux and crystallization performance during high saline solution treatment. Separation and Purification Technology, 2021, 259, 118191.	3.9	12
65	Interfacial co-weaving of AO-PIM-1 and ZIF-8 in composite membranes for enhanced H2 purification. Journal of Membrane Science, 2022, 645, 120217.	4.1	12
66	Further separation of HFC-23 and HCFC-22 by coupling multi-stage PDMS membrane unit to cryogenic distillation. Separation and Purification Technology, 2015, 156, 673-682.	3.9	11
67	A new long-side-chain sulfonated poly(2,6-dimethyl-1,4-phenylene oxide) (PPO) /polybenzimidazole (PBI) amphoteric membrane for vanadium redox flow battery. Chinese Journal of Chemical Engineering, 2020, 28, 1918-1924.	1.7	11
68	Efficiency Separation Process of H2/CO2/CH4 Mixtures by a Hollow Fiber Dual Membrane Separator. Processes, 2020, 8, 560.	1.3	10
69	Nanofibers interpenetrating network mimicking â€œreinforced-concreteâ€•to construct mechanically robust composite membrane for enhanced CO2 separation. Journal of Membrane Science, 2021, 639, 119749.	4.1	10
70	Facile fabrication of reinforced homoporous MF membranes by in situ breath figure and thermal adhesion method on substrates. Journal of Membrane Science, 2018, 554, 291-299.	4.1	9
71	Membrane-Assisted Cooling Crystallization for Interfacial Nucleation Induction and Self-Seeding Control. Industrial & Engineering Chemistry Research, 2022, 61, 765-776.	1.8	9
72	Formation Mechanism of the Spiral-Like Structure of a Hydrogen Bond Network Confined in a Fluorinated Nanochannel: A Molecular Dynamics Simulation. Journal of Physical Chemistry C, 2017, 121, 13840-13847.	1.5	8

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73	Cefalexin crystallization residual liquor separation via nanofiltration based multistage process. Separation and Purification Technology, 2020, 251, 117356.	3.9	8
74	Integration of molecular dynamic simulation and free volume theory for modeling membrane VOC/gas separation. Frontiers of Chemical Science and Engineering, 2018, 12, 296-305.	2.3	7
75	Multi-technique integration separation frameworks after steam reforming for coal-based hydrogen generation. Chinese Journal of Chemical Engineering, 2021, 35, 163-172.	1.7	7
76	Constructing continuous and fast transport pathway by highly permeable polymer electrospun fibers in composite membrane to improve CO2 capture. Separation and Purification Technology, 2022, 285, 120332.	3.9	7
77	Interfacial microdroplet evaporative crystallization on 3D printed regular matrix platform. AICHE Journal, 2020, 66, e16280.	1.8	6
78	PNIPAm hydrogel composite membrane for high-throughput adsorption of biological macromolecules. Separation and Purification Technology, 2022, 294, 121224.	3.9	6
79	Protein crystal regulation and harvest via electric field-based method. Current Opinion in Chemical Engineering, 2022, 36, 100744.	3.8	5
80	Regulating Cutoff Size of Metalâ€“Organic Frameworks by In Situ Anchoring of Poly(ethylene glycol) to Boost CO₂ Capture. Industrial & Engineering Chemistry Research, 2022, 61, 6650-6661.	1.8	5
81	Polyimide membrane system for tetrafluoroethylene recovery: Industrial plant, optimal operation and economic analysis. Separation and Purification Technology, 2017, 188, 468-475.	3.9	4
82	A Covalent Organic Framework Membrane with Homo Hierarchical Pores for Confined Reactive Crystallization. ACS Applied Materials & Interfaces, 2022, , .	4.0	4
83	Movable membrane-based separation system with high SF6 retention for large-scale gas-insulated transmission lines during maintenance. Separation and Purification Technology, 2021, 264, 118438.	3.9	3
84	Design and Economic Evaluation of a Hybrid Membrane Separation Process from Multiple Refinery Gases Using a Graphic Synthesis Method. Processes, 2022, 10, 820.	1.3	3
85	Particles deposition on microfiltration permeable boundary. Engineering Computations, 2015, 32, 1135-1152.	0.7	2
86	Highly efficient tetrafluoroethylene recovery for batch polymerization system: Membrane preparation and process development. Journal of Membrane Science, 2018, 549, 403-410.	4.1	2
87	Membrane separation system for coalâ€fired flue gas reclamation: Process planning and initial design. Canadian Journal of Chemical Engineering, 2019, 97, 717-726.	0.9	2
88	High selective synthesis of CaCO3 superstructures via ultra-homoporous interfacial crystallizer. Chemical Engineering Journal Advances, 2021, 8, 100179.	2.4	2