

Shuwei Liang

List of Publications by Year in descending order

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125
papers

10,987
citations

24978

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125
all docs

125
docs citations

125
times ranked

7375
citing authors

#	ARTICLE	IF	CITATIONS
1	Antifouling membranes for sustainable water purification: strategies and mechanisms. <i>Chemical Society Reviews</i> , 2016, 45, 5888-5924.	18.7	977
2	Nanostructured Ion-Exchange Membranes for Fuel Cells: Recent Advances and Perspectives. <i>Advanced Materials</i> , 2015, 27, 5280-5295.	11.1	335
3	Antifouling membrane surface construction: Chemistry plays a critical role. <i>Journal of Membrane Science</i> , 2018, 551, 145-171.	4.1	309
4	Efficient CO ₂ Capture by Functionalized Graphene Oxide Nanosheets as Fillers To Fabricate Multi-Permeable Mixed Matrix Membranes. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 5528-5537.	4.0	305
5	Covalent organic framework membranes through a mixed-dimensional assembly for molecular separations. <i>Nature Communications</i> , 2019, 10, 2101.	5.8	271
6	Two-dimensional nanochannel membranes for molecular and ionic separations. <i>Chemical Society Reviews</i> , 2020, 49, 1071-1089.	18.7	242
7	Ultrathin nanofiltration membrane with polydopamine-covalent organic framework interlayer for enhanced permeability and structural stability. <i>Journal of Membrane Science</i> , 2019, 576, 131-141.	4.1	238
8	Pebax-PEG-MWCNT hybrid membranes with enhanced CO ₂ capture properties. <i>Journal of Membrane Science</i> , 2014, 460, 62-70.	4.1	223
9	A novel positively charged composite nanofiltration membrane prepared by bio-inspired adhesion of polydopamine and surface grafting of poly(ethylene imine). <i>Journal of Membrane Science</i> , 2014, 470, 9-17.	4.1	214
10	Free-Standing Graphene Oxide-Palygorskite Nanohybrid Membrane for Oil/Water Separation. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 8247-8256.	4.0	214
11	Weakly Humidity-Dependent Proton-Conducting COF Membranes. <i>Advanced Materials</i> , 2020, 32, e2005565.	11.1	201
12	Facilitated transport mixed matrix membranes incorporated with amine functionalized MCM-41 for enhanced gas separation properties. <i>Journal of Membrane Science</i> , 2014, 465, 78-90.	4.1	196
13	Highly water-selective hybrid membrane by incorporating g-C ₃ N ₄ nanosheets into polymer matrix. <i>Journal of Membrane Science</i> , 2015, 490, 72-83.	4.1	194
14	A highly permeable graphene oxide membrane with fast and selective transport nanochannels for efficient carbon capture. <i>Energy and Environmental Science</i> , 2016, 9, 3107-3112.	15.6	192
15	2D Heterostructure Membranes with Sunlight-Driven Self-Cleaning Ability for Highly Efficient Oil-Water Separation. <i>Advanced Functional Materials</i> , 2018, 28, 1706545.	7.8	182
16	Separation performance of thin-film composite nanofiltration membrane through interfacial polymerization using different amine monomers. <i>Desalination</i> , 2014, 333, 59-65.	4.0	177
17	Pervaporation performance comparison of hybrid membranes filled with two-dimensional ZIF-L nanosheets and zero-dimensional ZIF-8 nanoparticles. <i>Journal of Membrane Science</i> , 2017, 523, 185-196.	4.1	176
18	Biomimetic and bioinspired membranes: Preparation and application. <i>Progress in Polymer Science</i> , 2014, 39, 1668-1720.	11.8	174

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19	Hybrid membranes for pervaporation separations. <i>Journal of Membrane Science</i> , 2017, 541, 329-346.	4.1	174
20	Covalent organic framework-modulated interfacial polymerization for ultrathin desalination membranes. <i>Journal of Materials Chemistry A</i> , 2019, 7, 25641-25649.	5.2	173
21	Organic molecular sieve membranes for chemical separations. <i>Chemical Society Reviews</i> , 2021, 50, 5468-5516.	18.7	170
22	Thin film nanocomposite membranes incorporated with graphene quantum dots for high flux and antifouling property. <i>Journal of Membrane Science</i> , 2018, 553, 17-24.	4.1	166
23	Enhanced Interfacial Interaction and CO ₂ Separation Performance of Mixed Matrix Membrane by Incorporating Polyethylenimine-Decorated Metal-Organic Frameworks. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 1065-1077.	4.0	162
24	Solid-Vapor Interface Engineered Covalent Organic Framework Membranes for Molecular Separation. <i>Journal of the American Chemical Society</i> , 2020, 142, 13450-13458.	6.6	161
25	Zwitterionic polyethersulfone ultrafiltration membrane with superior antifouling property. <i>Journal of Membrane Science</i> , 2008, 319, 271-278.	4.1	159
26	Enhancing the CO ₂ separation performance of composite membranes by the incorporation of amino acid-functionalized graphene oxide. <i>Journal of Materials Chemistry A</i> , 2015, 3, 6629-6641.	5.2	152
27	Engineering amphiphilic membrane surfaces based on PEO and PDMS segments for improved antifouling performances. <i>Journal of Membrane Science</i> , 2014, 450, 111-123.	4.1	148
28	Fabrication of electro-neutral nanofiltration membranes at neutral pH with antifouling surface via interfacial polymerization from a novel zwitterionic amine monomer. <i>Journal of Membrane Science</i> , 2016, 503, 101-109.	4.1	126
29	Fabrication of composite nanofiltration membrane by incorporating attapulgite nanorods during interfacial polymerization for high water flux and antifouling property. <i>Journal of Membrane Science</i> , 2017, 544, 79-87.	4.1	121
30	Sulfonated poly(ether ether ketone)-based hybrid membranes containing graphene oxide with acid-base pairs for direct methanol fuel cells. <i>Electrochimica Acta</i> , 2016, 203, 178-188.	2.6	113
31	Incorporating Zwitterionic Graphene Oxides into Sodium Alginate Membrane for Efficient Water/Alcohol Separation. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 2097-2103.	4.0	113
32	Highly water-permeable and stable hybrid membrane with asymmetric covalent organic framework distribution. <i>Journal of Membrane Science</i> , 2016, 520, 583-595.	4.1	107
33	Enhancing the permeation flux and antifouling performance of polyamide nanofiltration membrane by incorporation of PEG-POSS nanoparticles. <i>Journal of Membrane Science</i> , 2017, 540, 454-463.	4.1	107
34	Membrane-Based Olefin/Paraffin Separations. <i>Advanced Science</i> , 2020, 7, 2001398.	5.6	105
35	Metal-coordinated sub-10-nm membranes for water purification. <i>Nature Communications</i> , 2019, 10, 4160.	5.8	104
36	Functionally graded membranes from nanoporous covalent organic frameworks for highly selective water permeation. <i>Journal of Materials Chemistry A</i> , 2018, 6, 583-591.	5.2	103

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37	Tunable Nanochannels along Graphene Oxide/Polymer Core-Shell Nanosheets to Enhance Proton Conductivity. <i>Advanced Functional Materials</i> , 2015, 25, 7502-7511.	7.8	97
38	Graphene quantum dot engineered ultrathin loose polyamide nanofilms for high-performance nanofiltration. <i>Journal of Materials Chemistry A</i> , 2020, 8, 23930-23938.	5.2	95
39	Surface fluorination of polyamide nanofiltration membrane for enhanced antifouling property. <i>Journal of Membrane Science</i> , 2014, 455, 15-23.	4.1	90
40	Multifunctional covalent organic framework (COF)-Based mixed matrix membranes for enhanced CO ₂ separation. <i>Journal of Membrane Science</i> , 2021, 618, 118693.	4.1	88
41	Preparation of ultrathin, robust membranes through reactive layer-by-layer (LbL) assembly for pervaporation dehydration. <i>Journal of Membrane Science</i> , 2017, 537, 229-238.	4.1	87
42	Polydopamine-modulated covalent organic framework membranes for molecular separation. <i>Journal of Materials Chemistry A</i> , 2019, 7, 18063-18071.	5.2	86
43	SPEEK/amine-functionalized TiO ₂ submicrospheres mixed matrix membranes for CO ₂ separation. <i>Journal of Membrane Science</i> , 2014, 467, 23-35.	4.1	84
44	Bioinspired Ultrastrong Solid Electrolytes with Fast Proton Conduction along 2D Channels. <i>Advanced Materials</i> , 2017, 29, 1605898.	11.1	81
45	Scalable Fabrication of Crystalline COF Membranes from Amorphous Polymeric Membranes. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 18051-18058.	7.2	81
46	Highly water-selective membranes based on hollow covalent organic frameworks with fast transport pathways. <i>Journal of Membrane Science</i> , 2018, 565, 331-341.	4.1	73
47	Mixed Nanosheet Membranes Assembled from Chemically Grafted Graphene Oxide and Covalent Organic Frameworks for Ultra-high Water Flux. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 28978-28986.	4.0	72
48	Fabrication of Nafion/zwitterion-functionalized covalent organic framework composite membranes with improved proton conductivity. <i>Journal of Membrane Science</i> , 2018, 568, 1-9.	4.1	70
49	Graphene quantum dots engineered nanofiltration membrane for ultrafast molecular separation. <i>Journal of Membrane Science</i> , 2019, 572, 504-511.	4.1	69
50	Facilitating Proton Transport in Nafion-Based Membranes at Low Humidity by Incorporating Multifunctional Graphene Oxide Nanosheets. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 27676-27687.	4.0	67
51	Creation of active-passive integrated mechanisms on membrane surfaces for superior antifouling and antibacterial properties. <i>Journal of Membrane Science</i> , 2018, 548, 621-631.	4.1	67
52	Electrostatic-modulated interfacial polymerization toward ultra-permselective nanofiltration membranes. <i>IScience</i> , 2021, 24, 102369.	1.9	67
53	Engineering amphiphilic nanofiltration membrane surfaces with a multi-defense mechanism for improved antifouling performances. <i>Journal of Materials Chemistry A</i> , 2016, 4, 7892-7902.	5.2	66
54	Fabrication of hybrid membranes by incorporating acid-base pair functionalized hollow mesoporous silica for enhanced proton conductivity. <i>Journal of Materials Chemistry A</i> , 2015, 3, 16079-16088.	5.2	63

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55	Janus composite nanoparticle-incorporated mixed matrix membranes for CO ₂ separation. <i>Journal of Membrane Science</i> , 2015, 489, 1-10.	4.1	62
56	Covalent Organic Framework Nanosheets as Reactive Fillers To Fabricate Free-Standing Polyamide Membranes for Efficient Desalination. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 27777-27785.	4.0	62
57	Heterostructured filler in mixed matrix membranes to coordinate physical and chemical selectivities for enhanced CO ₂ separation. <i>Journal of Membrane Science</i> , 2018, 567, 272-280.	4.1	60
58	Brønsted acid mediated covalent organic framework membranes for efficient molecular separation. <i>Journal of Materials Chemistry A</i> , 2019, 7, 20317-20324.	5.2	58
59	Ultrathin Membranes for Separations: A New Era Driven by Advanced Nanotechnology. <i>Advanced Materials</i> , 2022, 34, e2108457.	11.1	58
60	Bioadhesion-inspired polymer-inorganic nanohybrid membranes with enhanced CO ₂ capture properties. <i>Journal of Materials Chemistry</i> , 2012, 22, 19617.	6.7	57
61	Water-selective permeation in hybrid membrane incorporating multi-functional hollow ZIF-8 nanospheres. <i>Journal of Membrane Science</i> , 2018, 555, 146-156.	4.1	57
62	Manipulation of interactions at membrane interfaces for energy and environmental applications. <i>Progress in Polymer Science</i> , 2018, 80, 125-152.	11.8	56
63	Graphene oxide quantum dots incorporated nanocomposite membranes with high water flux for pervaporative dehydration. <i>Journal of Membrane Science</i> , 2018, 563, 903-913.	4.1	55
64	110th Anniversary: Mixed Matrix Membranes with Fillers of Intrinsic Nanopores for Gas Separation. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 7706-7724.	1.8	54
65	Enhanced pervaporative performance of hybrid membranes containing Fe ₃ O ₄ @CNT nanofillers. <i>Journal of Membrane Science</i> , 2015, 492, 230-241.	4.1	50
66	Control of Edge/in-Plane Interactions toward Robust, Highly Proton Conductive Graphene Oxide Membranes. <i>ACS Nano</i> , 2019, 13, 10366-10375.	7.3	50
67	In situ construction of chemically heterogeneous hydrogel surfaces toward near-zero-flux-decline membranes for oil-water separation. <i>Journal of Membrane Science</i> , 2020, 594, 117455.	4.1	50
68	Amino-functionalized NUS-8 nanosheets as fillers in PIM-1 mixed matrix membranes for CO ₂ separations. <i>Journal of Membrane Science</i> , 2022, 641, 119912.	4.1	50
69	Ultrapervaporable graphene oxide membranes with tunable interlayer distances via vein-like supramolecular dendrimers. <i>Journal of Materials Chemistry A</i> , 2019, 7, 18642-18652.	5.2	48
70	Graphene oxide membranes with fixed interlayer distance via dual crosslinkers for efficient liquid molecular separations. <i>Journal of Membrane Science</i> , 2020, 595, 117486.	4.1	47
71	Ultrathin polyamide nanofiltration membranes with tunable chargeability for multivalent cation removal. <i>Journal of Membrane Science</i> , 2022, 642, 119971.	4.1	47
72	Modulating interfacial polymerization with phytate as aqueous-phase additive for highly-permselective nanofiltration membranes. <i>Journal of Membrane Science</i> , 2022, 657, 120673.	4.1	47

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73	Superwetting membranes: from controllable constructions to efficient separations. Journal of Materials Chemistry A, 2021, 9, 1395-1417.	5.2	46
74	Bimetallic metal-organic frameworks nanocages as multi-functional fillers for water-selective membranes. Journal of Membrane Science, 2018, 545, 19-28.	4.1	44
75	Ultrathin heterostructured covalent organic framework membranes with interfacial molecular sieving capacity for fast water-selective permeation. Journal of Materials Chemistry A, 2020, 8, 19328-19336.	5.2	43
76	Significantly enhanced CO ₂ capture properties by synergy of zinc ion and sulfonate in Pebax-pitch hybrid membranes. Journal of Membrane Science, 2018, 549, 670-679.	4.1	41
77	Porous organosilicon nanotubes in pebax-based mixed-matrix membranes for biogas purification. Journal of Membrane Science, 2019, 573, 301-308.	4.1	41
78	2D layered double hydroxide membranes with intrinsic breathing effect toward CO ₂ for efficient carbon capture. Journal of Membrane Science, 2020, 598, 117663.	4.1	41
79	Thermal-facilitated interfacial polymerization toward high-performance polyester desalination membrane. Journal of Materials Chemistry A, 2021, 9, 8470-8479.	5.2	40
80	Enhancing the permeation selectivity of sodium alginate membrane by incorporating attapulgite nanorods for ethanol dehydration. RSC Advances, 2016, 6, 14381-14392.	1.7	38
81	A highly conductive and robust anion conductor obtained via synergistic manipulation in intra- and inter-laminate of layered double hydroxide nanosheets. Journal of Materials Chemistry A, 2018, 6, 10277-10285.	5.2	38
82	Exfoliation-free layered double hydroxides laminates intercalated with amino acids for enhanced CO ₂ separation of mixed matrix membrane. Journal of Membrane Science, 2021, 618, 118691.	4.1	38
83	Embedding hydrophobic MoS ₂ nanosheets within hydrophilic sodium alginate membrane for enhanced ethanol dehydration. Chemical Engineering Science, 2018, 185, 231-242.	1.9	35
84	Hierarchical pore architectures from 2D covalent organic nanosheets for efficient water/alcohol separation. Journal of Membrane Science, 2018, 561, 79-88.	4.1	33
85	Incorporating arginine-FeIII complex into polyamide membranes for enhanced water permeance and antifouling performance. Journal of Membrane Science, 2020, 602, 117980.	4.1	33
86	Three-dimensional covalent organic framework membrane for efficient proton conduction. Journal of Materials Chemistry A, 2021, 9, 17720-17723.	5.2	32
87	Ultrathin fluorinated self-cleaning membranes via coordination-driven metal-bridging assembly for water purification. Journal of Materials Chemistry A, 2020, 8, 4505-4514.	5.2	31
88	Incorporating covalent organic framework nanosheets into polyamide membranes for efficient desalination. Separation and Purification Technology, 2021, 274, 119046.	3.9	31
89	Construction of graphene oxide membrane through non-covalent cross-linking by sulfonated cyclodextrin for ultra-permeable butanol dehydration. Journal of Membrane Science, 2021, 621, 118938.	4.1	30
90	Conferring efficient alcohol dehydration to covalent organic framework membranes via post-synthetic linker exchange. Journal of Membrane Science, 2021, 630, 119319.	4.1	30

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91	Mix-charged polyamide membranes via molecular hybridization for selective ionic nanofiltration. <i>Journal of Membrane Science</i> , 2022, 644, 120051.	4.1	29
92	Quaternary ammonium engineered polyamide membrane with high positive charge density for efficient Li ⁺ /Mg ²⁺ separation. <i>Journal of Membrane Science</i> , 2022, 659, 120802.	4.1	29
93	Construction of molecule-selective mixed matrix membranes with confined mass transfer structure. <i>Chinese Journal of Chemical Engineering</i> , 2017, 25, 1563-1580.	1.7	27
94	In-situ construction of antifouling separation layer via a reaction enhanced surface segregation method. <i>Chemical Engineering Science</i> , 2018, 190, 89-97.	1.9	27
95	A facile metal ion pre-anchored strategy for fabrication of defect-free MOF membranes on polymeric substrates. <i>Journal of Membrane Science</i> , 2022, 650, 120419.	4.1	27
96	Enhanced dehydration performance of hybrid membranes by incorporating lanthanide-based MOFs. <i>Journal of Membrane Science</i> , 2018, 546, 31-40.	4.1	26
97	Weakly pressure-dependent molecular sieving of propylene/propane mixtures through mixed matrix membrane with ZIF-8 direct-through channels. <i>Journal of Membrane Science</i> , 2022, 648, 120366.	4.1	26
98	Preparation of Antifouling Nanofiltration Membrane via Interfacial Polymerization of Fluorinated Polyamine and Trimesoyl Chloride. <i>Industrial & Engineering Chemistry Research</i> , 2015, 54, 8302-8310.	1.8	25
99	Constructing channel-mediated facilitated transport membranes by incorporating covalent organic framework nanosheets with tunable microenvironments. <i>Journal of Materials Chemistry A</i> , 2019, 7, 9912-9923.	5.2	25
100	Loosening ultrathin polyamide nanofilms through alkali hydrolysis for high-permselective nanofiltration. <i>Journal of Membrane Science</i> , 2021, 637, 119623.	4.1	25
101	Electrostatic enhanced surface segregation approach to self-cleaning and antifouling membranes for efficient molecular separation. <i>Journal of Membrane Science</i> , 2021, 638, 119689.	4.1	25
102	A nonionic polymer-brush-grafted PVDF membrane to analyse fouling during the filtration of oil/water emulsions. <i>Journal of Membrane Science</i> , 2021, 637, 119644.	4.1	25
103	Ultrathin nanofiltration membrane assembled by polyethyleneimine-grafted graphene quantum dots. <i>Journal of Membrane Science</i> , 2022, 642, 119944.	4.1	25
104	One-pot synthesis of silica-titania binary nanoparticles with acid-base pairs via biomimetic mineralization to fabricate highly proton-conductive membranes. <i>Journal of Materials Chemistry A</i> , 2017, 5, 18585-18593.	5.2	24
105	Engineering multi-pathway graphene oxide membranes toward ultrafast water purification. <i>Journal of Membrane Science</i> , 2021, 638, 119706.	4.1	24
106	Incorporating amino acids functionalized graphene oxide nanosheets into Pebax membranes for CO ₂ separation. <i>Separation and Purification Technology</i> , 2022, 288, 120682.	3.9	23
107	Anionic covalent organic framework engineered high-performance polyamide membrane for divalent anions removal. <i>Journal of Membrane Science</i> , 2022, 650, 120451.	4.1	22
108	Oil/water separation membranes with a fluorine island structure for stable high flux. <i>Journal of Materials Chemistry A</i> , 2021, 9, 6905-6912.	5.2	19

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109	Heterostructured graphene oxide membranes with tunable water-capture coatings for highly selective water permeation. <i>Journal of Materials Chemistry A</i> , 2021, 9, 7903-7912.	5.2	18
110	Vapor-liquid interfacial polymerization of covalent organic framework membranes for efficient alcohol dehydration. <i>Journal of Membrane Science</i> , 2022, 641, 119905.	4.1	18
111	Sulfonated lignin intercalated graphene oxide membranes for efficient proton conduction. <i>Journal of Membrane Science</i> , 2022, 644, 120126.	4.1	17
112	Tuning the pore size of graphene quantum dots composite nanofiltration membranes by P-aminobenzoic acid for enhanced dye/salt separation. <i>Separation and Purification Technology</i> , 2021, 263, 118372.	3.9	16
113	Graphene oxide membranes tuned by metal-phytic acid coordination complex for butanol dehydration. <i>Journal of Membrane Science</i> , 2021, 638, 119736.	4.1	16
114	Supramolecular Calix[<i>n</i>]arenes-Intercalated Graphene Oxide Membranes for Efficient Proton Conduction. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 42250-42260.	4.0	15
115	Pervaporation dehydration of an acetone/water mixture by hybrid membranes incorporated with sulfonated carbon molecular sieves. <i>RSC Advances</i> , 2016, 6, 55272-55281.	1.7	14
116	Enhanced dehydration performance of hybrid membranes by incorporating fillers with hydrophilic-hydrophobic regions. <i>Chemical Engineering Science</i> , 2018, 178, 273-283.	1.9	13
117	Plasticization- and aging-resistant membranes with venation-like architecture for efficient carbon capture. <i>Journal of Membrane Science</i> , 2020, 609, 118215.	4.1	12
118	Fouling-resistant robust membranes via electrostatic complexation for water purification. <i>Chemical Engineering Journal</i> , 2021, 416, 129139.	6.6	11
119	Perfluorooctanoyl chloride engineering toward high-flux antifouling polyamide nanofilms for desalination. <i>Journal of Membrane Science</i> , 2022, 644, 120166.	4.1	10
120	Charged nanochannels endow COF membrane with weakly concentration-dependent methanol permeability. <i>Journal of Membrane Science</i> , 2022, 645, 120186.	4.1	10
121	Microstructure Manipulation of Covalent Organic Frameworks (COFs)-based Membrane for Efficient Separations. <i>Chemical Research in Chinese Universities</i> , 2022, 38, 325-338.	1.3	10
122	Hybrid membranes with 2D vertical continuous channels from layered double hydroxides array for high-efficiency ethanol dehydration. <i>Journal of Membrane Science</i> , 2022, 643, 120040.	4.1	9
123	In-situ construction of water capture layer through reaction enhanced surface segregation for pervaporation desalination. <i>Journal of Membrane Science</i> , 2022, 658, 120708.	4.1	9
124	Vertically oriented Fe ₃ O ₄ nanoflakes within hybrid membranes for efficient water/ethanol separation. <i>Journal of Membrane Science</i> , 2021, 620, 118916.	4.1	8
125	Highly permeable and antioxidative graphene oxide membranes for concentration of hydrogen peroxide aqueous solution. <i>Journal of Membrane Science</i> , 2022, 643, 120036.	4.1	8