Jeffrey R Mccutcheon

List of Publications by Year
in descending order

95 papers	10,166 citations	53660 45 h-index	40881 93 g-index
100 all docs	100 docs citations	100 times ranked	5807 citing authors

#	Article	IF	Citations
1	Influence of concentrative and dilutive internal concentration polarization on flux behavior in forward osmosis. Journal of Membrane Science, 2006, 284, 237-247.	4.1	1,121
2	A novel ammoniaâ€"carbon dioxide forward (direct) osmosis desalination process. Desalination, 2005, 174, 1-11.	4.0	850
3	Desalination by ammoniaâ€"carbon dioxide forward osmosis: Influence of draw and feed solution concentrations on process performance. Journal of Membrane Science, 2006, 278, 114-123.	4.1	726
4	Internal concentration polarization in forward osmosis: role of membrane orientation. Desalination, 2006, 197, 1-8.	4.0	564
5	Influence of membrane support layer hydrophobicity on water flux in osmotically driven membrane processes. Journal of Membrane Science, 2008, 318, 458-466.	4.1	417
6	3D printed polyamide membranes for desalination. Science, 2018, 361, 682-686.	6.0	359
7	Standard Methodology for Evaluating Membrane Performance in Osmotically Driven Membrane Processes. Desalination, 2013, 312, 31-38.	4.0	349
8	Modeling water flux in forward osmosis: Implications for improved membrane design. AICHE Journal, 2007, 53, 1736-1744.	1.8	323
9	Surface modification of thin film composite membrane support layers with polydopamine: Enabling use of reverse osmosis membranes in pressure retarded osmosis. Journal of Membrane Science, 2011, 375, 55-62.	4.1	297
10	Electrospun nanofiber supported thin film composite membranes for engineered osmosis. Journal of Membrane Science, 2011, 385-386, 10-19.	4.1	275
11	Hydrophilic Nanofibers as New Supports for Thin Film Composite Membranes for Engineered Osmosis. Environmental Science & Technology, 2013, 47, 1761-1769.	4.6	230
12	A new commercial thin film composite membrane for forward osmosis. Desalination, 2014, 343, 187-193.	4.0	229
13	Impact of support layer pore size on performance of thin film composite membranes for forward osmosis. Journal of Membrane Science, 2015, 483, 25-33.	4.1	227
14	A novel ammoniaâ€"carbon dioxide osmotic heat engine for power generation. Journal of Membrane Science, 2007, 305, 13-19.	4.1	226
15	Improved mechanical properties and hydrophilicity of electrospun nanofiber membranes for filtration applications by dopamine modification. Journal of Membrane Science, 2014, 460, 241-249.	4.1	223
16	Performance evaluation of sucrose concentration using forward osmosis. Journal of Membrane Science, 2009, 338, 61-66.	4.1	185
17	Increasing strength of electrospun nanofiber membranes for water filtration using solvent vapor. Journal of Membrane Science, 2013, 436, 213-220.	4.1	174
18	Controlling electrospun nanofiber morphology and mechanical properties using humidity. Journal of Polymer Science, Part B: Polymer Physics, 2011, 49, 1734-1744.	2.4	146

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19	Proper accounting of mass transfer resistances in forward osmosis: Improving the accuracy of model predictions of structural parameter. Journal of Membrane Science, 2015, 492, 289-302.	4.1	146
20	Hydrophilic nylon 6,6 nanofibers supported thin film composite membranes for engineered osmosis. Journal of Membrane Science, 2014, 457, 162-169.	4.1	138
21	Recent advances in functionalized polymer membranes for biofouling control and mitigation in forward osmosis. Journal of Membrane Science, 2020, 596, 117604.	4.1	138
22	Surface modified PVDF nanofiber supported thin film composite membranes for forward osmosis. Journal of Membrane Science, 2016, 499, 352-360.	4.1	134
23	A high flux polyvinyl acetate-coated electrospun nylon 6/SiO 2 composite microfiltration membrane for the separation of oil-in-water emulsion with improved antifouling performance. Journal of Membrane Science, 2017, 537, 297-309.	4.1	123
24	Novel hydrophilic nylon 6,6 microfiltration membrane supported thin film composite membranes for engineered osmosis. Journal of Membrane Science, 2013, 437, 141-149.	4.1	116
25	Nanofiber Supported Thin-Film Composite Membrane for Pressure-Retarded Osmosis. Environmental Science & Technology, 2014, 48, 4129-4136.	4.6	116
26	Dewatering press liquor derived from orange production by forward osmosis. Journal of Membrane Science, 2011, 372, 97-101.	4.1	104
27	Power generation and organics removal from wastewater using activated carbon nanofiber (ACNF) microbial fuel cells (MFCs). International Journal of Hydrogen Energy, 2013, 38, 1588-1597.	3.8	91
28	Design and fabrication of electrospun polyethersulfone nanofibrous scaffold for highâ€flux nanofiltration membranes. Journal of Polymer Science, Part B: Polymer Physics, 2009, 47, 2288-2300.	2.4	84
29	Solute and water transport in forward osmosis using polydopamine modified thin film composite membranes. Desalination, 2014, 343, 8-16.	4.0	82
30	Novel Commercial Aquaporin Flat-Sheet Membrane for Forward Osmosis. Industrial & Engineering Chemistry Research, 2017, 56, 11919-11925.	1.8	81
31	Pore structure characterization of asymmetric membranes: Non-destructive characterization of porosity and tortuosity. Journal of Membrane Science, 2014, 454, 549-554.	4.1	73
32	Recent progress in the detection of emerging contaminants PFASs. Journal of Hazardous Materials, 2021, 408, 124437.	6.5	72
33	Activated carbon nanofiber anodes for microbial fuel cells. Carbon, 2013, 53, 19-28.	5.4	69
34	A new commercial biomimetic hollow fiber membrane for forward osmosis. Desalination, 2018, 442, 44-50.	4.0	67
35	Energy-positive wastewater treatment and desalination in an integrated microbial desalination cell (MDC)-microbial electrolysis cell (MEC). Journal of Power Sources, 2017, 356, 529-538.	4.0	65
36	Flat microliter membrane-based microbial fuel cell as â€œon-line sticker sensorâ€•for self-supported in situ monitoring of wastewater shocks. Bioresource Technology, 2015, 197, 244-251.	4.8	63

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37	Polyacrylonitrile supported thin film composite hollow fiber membranes for forward osmosis. Desalination, 2015, 372, 67-74.	4.0	62
38	Nanoparticle-embedded nanofibers in highly permselective thin-film nanocomposite membranes for forward osmosis. Journal of Membrane Science, 2016, 518, 338-346.	4.1	62
39	Ceramic-supported thin film composite membrane for organic solvent nanofiltration. Journal of Membrane Science, 2018, 563, 857-863.	4.1	62
40	Characterization of polymeric nonwovens using porosimetry, porometry and X-ray computed tomography. Journal of Membrane Science, 2012, 407-408, 108-115.	4.1	60
41	Understanding mass transfer through asymmetric membranes during forward osmosis: A historical perspective and critical review on measuring structural parameter with semi-empirical models and characterization approaches. Desalination, 2017, 421, 110-126.	4.0	56
42	Sulfonated polysulfone supported high performance thin film composite membranes for forward osmosis. Polymer, 2016, 103, 486-497.	1.8	51
43	Thin Film Composite Membranes for Forward Osmosis Supported by Commercial Nanofiber Nonwovens. Industrial & Engineering Chemistry Research, 2017, 56, 1057-1063.	1.8	51
44	Towards high power output of scaled-up benthic microbial fuel cells (BMFCs) using multiple electron collectors. Biosensors and Bioelectronics, 2016, 79, 435-441.	5.3	47
45	Impact of temperature on power density in closed-loop pressure retarded osmosis for grid storage. Journal of Membrane Science, 2015, 479, 240-245.	4.1	46
46	Large-scale polymeric carbon nanotube membranes with subâ€“1.27-nm pores. Science Advances, 2018, 4, e1700938.	4.7	46
47	Model thin film composite membranes for forward osmosis: Demonstrating the inaccuracy of existing structural parameter models. Journal of Membrane Science, 2015, 483, 70-74.	4.1	45
48	Relating osmotic performance of thin film composite hollow fiber membranes to support layer surface pore size. Journal of Membrane Science, 2017, 540, 344-353.	4.1	45
49	Exposure, health effects, sensing, and remediation of the emerging PFAS contaminants â€“ Scientific challenges and potential research directions. Science of the Total Environment, 2021, 780, 146399.	3.9	42
50	Point of use water treatment with forward osmosis for emergency relief. Desalination, 2013, 312, 23-30.	4.0	39
51	A critical review and commentary on recent progress of additive manufacturing and its impact on membrane technology. Journal of Membrane Science, 2022, 645, 120041.	4.1	38
52	Characterization and Performance Relationships for a Commercial Thin Film Composite Membrane in Forward Osmosis Desalination and Pressure Retarded Osmosis. Industrial & Engineering Chemistry Research, 2015, 54, 11393-11403.	1.8	36
53	Use of a Forward Osmosisâ€“Membrane Distillation Integrated Process in the Treatment of High-Salinity Oily Wastewater. Industrial & Engineering Chemistry Research, 2019, 58, 956-962.	1.8	36
54	Elucidating the impact of temperature gradients across membranes during forward osmosis: Coupling heat and mass transfer models for better prediction of real osmotic systems. Journal of Membrane Science, 2018, 553, 189-199.	4.1	35

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55	Holographic characterization of contaminants in water: Differentiation of suspended particles in heterogeneous dispersions. Water Research, 2017, 122, 431-439.	5.3	30
56	Treatment of fracking wastewaters via forward osmosis: Evaluation of suitable organic draw solutions. Desalination, 2019, 452, 149-158.	4.0	29
57	Understanding the influence of solvents on the intrinsic properties and performance of polyamide thin film composite membranes. Separation and Purification Technology, 2020, 238, 116398.	3.9	29
58	pH Sensitivity of Ion Exchange through a Thin Film Composite Membrane in Forward Osmosis. Environmental Science and Technology Letters, 2015, 2, 177-182.	3.9	27
59	Thermodynamic analysis of energy density in pressure retarded osmosis: The impact of solution volumes and costs. Journal of Membrane Science, 2015, 487, 240-248.	4.1	27
60	Printing zwitterionic self-assembled thin film composite membranes: Tuning thickness leads to remarkable permeability for nanofiltration. Journal of Membrane Science, 2021, 635, 119428.	4.1	26
61	Triple-Layer Nanofiber Membranes for Treating High Salinity Brines Using Direct Contact Membrane Distillation. Membranes, 2019, 9, 60.	1.4	25
62	Making Thin Film Composite Hollow Fiber Forward Osmosis Membranes at the Module Scale Using Commercial Ultrafiltration Membranes. Industrial & Engineering Chemistry Research, 2017, 56, 4074-4082.	1.8	23
63	Braid-reinforced thin film composite hollow fiber nanofiltration membranes. Journal of Membrane Science, 2019, 585, 109-114.	4.1	21
64	Finding better draw solutes for osmotic heat engines: Understanding transport of ions during pressure retarded osmosis. Desalination, 2017, 421, 32-39.	4.0	19
65	Beer dealcoholization by forward osmosis diafiltration. Innovative Food Science and Emerging Technologies, 2020, 63, 102371.	2.7	19
66	A computational fluid dynamics model to predict performance of hollow fiber membrane modules in forward osmosis. Journal of Membrane Science, 2020, 603, 117973.	4.1	19
67	Characterization and membrane stability study for the switchable polarity solvent N,N-dimethylcyclohexylamine as a draw solute in forward osmosis. Journal of Membrane Science, 2016, 501, 93-99.	4.1	18
68	A hybrid dead-end/cross-flow forward osmosis system for evaluating osmotic flux performance at high recovery of produced water. Desalination, 2017, 421, 127-134.	4.0	18
69	Avoiding the Hype in Developing Commercially Viable Desalination Technologies. Joule, 2019, 3, 1168-1171.	11.7	18
70	Transport of Components in the Separation of Ethanol from Aqueous Dilute Solutions by Forward Osmosis. Industrial & Engineering Chemistry Research, 2018, 57, 2967-2975.	1.8	17
71	Activated Carbon Nanofiber Nonwovens: Improving Strength and Surface Area by Tuning Fabrication Procedure. Industrial & Engineering Chemistry Research, 2019, 58, 4084-4089.	1.8	17
72	Norepinephrine modified thin film composite membranes for forward osmosis. Desalination, 2017, 423, 157-164.	4.0	16

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73	Modeling the effect of film-pore coupled transport on composite forward osmosis membrane performance. Journal of Membrane Science, 2017, 523, 533-541.	4.1	15
74	Activated carbon nanofiber nonwoven for removal of emulsified oil from water. Microporous and Mesoporous Materials, 2020, 296, 109966.	2.2	15
75	3D printed MOF-based mixed matrix thin-film composite membranes. RSC Advances, 2021, 11, 25658-25663.	1.7	15
76	Use of forward osmosis in treatment of hyper-saline water. , 0, 133, 1-9.		15
77	Enhancing long-term accuracy and durability of wastewater monitoring using electrosprayed ultra-thin solid-state ion selective membrane sensors. Journal of Membrane Science, 2022, 643, 119997.	4.1	14
78	Enhancing the Understanding of Soil Nitrogen Fate Using a 3D-Electrospray Sensor Roll Casted with a Thin-Layer Hydrogel. Environmental Science & Technology, 2022, 56, 4905-4914.	4.6	14
79	Molecular insights into the structure-property relationships of 3D printed polyamide reverse-osmosis membrane for desalination. Journal of Membrane Science, 2022, 658, 120731.	4.1	14
80	Using forward osmosis to teach mass transfer fundamentals to undergraduate chemical engineering students. Desalination, 2013, 312, 10-18.	4.0	13
81	Unraveling the mysteries of the thin film composite reverse osmosis membrane. Joule, 2021, 5, 528-530.	11.7	13
82	Enhancing iCVD Modification of Electrospun Membranes for Membrane Distillation Using a 3D Printed Scaffold. Polymers, 2020, 12, 2074.	2.0	10
83	Electrospraying Zwitterionic Copolymers as an Effective Biofouling Control for Accurate and Continuous Monitoring of Wastewater Dynamics in a Real-Time and Long-Term Manner. Environmental Science & Technology, 2022, 56, 8176-8186.	4.6	9
84	Tailored multi-zoned nylon 6,6 supported thin film composite membranes for pressure retarded osmosis. Desalination, 2016, 399, 96-104.	4.0	8
85	On the importance of selectivity and support layer compaction in pressure retarded osmosis. Desalination, 2021, 498, 114804.	4.0	8
86	Allylcyclohexylamine functionalized siloxane polymer and its phase separated blend as pervaporation membranes for 1,3-propanediol enrichment from binary aqueous mixtures. Journal of Membrane Science, 2015, 486, 59-70.	4.1	7
87	Towards high resolution monitoring of water flow velocity using flat flexible thin mm-sized resistance-typed sensor film (MRSF). Water Research X, 2019, 4, 100028.	2.8	7
88	Fabrication and Characterizations of Silica Nanoparticle Embedded Carbon Nanofibers. Industrial & Engineering Chemistry Research, 2019, 58, 4462-4467.	1.8	6
89	Membrane fouling control by Ca2+ during coagulationâ€“ultrafiltration process for algal-rich water treatment. Environmental Geochemistry and Health, 2020, 42, 809-818.	1.8	6
90	Closed-loop pressure retarded osmosis draw solutions and their regeneration processes: A review. Renewable and Sustainable Energy Reviews, 2022, 159, 112191.	8.2	6

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91	A trimethylamineâ€“carbon dioxide draw solution for osmotic engines. AIChE Journal, 2018, 64, 3369-3375.	1.8	4
92	Application of direct contact membrane distillation for treating high salinity solutions: impact of membrane structure and chemistry. , 0, 136, 31-38.		4
93	Moving beyond passive separations. Nature Materials, 2022, 21, 387-388.	13.3	3
94	Visualizing Hydrated Polymeric Membranes Using X-Ray Microscopy. Microscopy and Microanalysis, 2014, 20, 1938-1939.	0.2	0
95	Method for direct observation of biofilm formation during operation on forward osmosis membranes. , 2014, , .		0