Manish Kumar

List of Publications by Year
in descending order

97 papers	4,765 citations	101543 36 h-index	98798 67 g-index
101 all docs	101 docs citations	101 times ranked	5662 citing authors

#	Article	IF	Citations
1	Highly permeable polymeric membranes based on the incorporation of the functional water channel protein Aquaporin Z. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 20719-20724.	7.1	645
2	Biomimetic membranes: A review. Journal of Membrane Science, 2014, 454, 359-381.	8.2	314
3	Polyacrylamide degradation and its implications in environmental systems. Npj Clean Water, 2018, 1, .	8.0	271
4	Origins of concentration gradients for diffusiophoresis. Soft Matter, 2016, 12, 4686-4703.	2.7	241
5	Nanoscale control of internal inhomogeneity enhances water transport in desalination membranes. Science, 2021, 371, 72-75.	12.6	193
6	Highly permeable artificial water channels that can self-assemble into two-dimensional arrays. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9810-9815.	7.1	152
7	Innovative beneficial reuse of reverse osmosis concentrate using bipolar membrane electrodialysis and electrochlorination processes. Journal of Membrane Science, 2009, 326, 392-399.	8.2	143
8	Salt-Excluding Artificial Water Channels Exhibiting Enhanced Dipolar Water and Proton Translocation. Journal of the American Chemical Society, 2016, 138, 5403-5409.	13.7	111
9	Artificial water channels enable fast and selective water permeation through water-wire networks. Nature Nanotechnology, 2020, 15, 73-79.	31.5	111
10	High-Density Reconstitution of Functional Water Channels into Vesicular and Planar Block Copolymer Membranes. Journal of the American Chemical Society, 2012, 134, 18631-18637.	13.7	107
11	Specific ion effects on the permselectivity of sulfonated poly(ether sulfone) cation exchange membranes. Journal of Membrane Science, 2016, 508, 146-152.	8.2	100
12	Achieving high permeability and enhanced selectivity for Angstrom-scale separations using artificial water channel membranes. Nature Communications, 2018, 9, 2294.	12.8	95
13	Immobilized Proteinâ€“Polymer Nanoreactors. Small, 2009, 5, 2545-2548.	10.0	89
14	CO₂permeability of cell membranes is regulated by membrane cholesterol and protein gas channels. FASEB Journal, 2012, 26, 5182-5191.	0.5	88
15	A single heterologously expressed plant cellulose synthase isoform is sufficient for cellulose microfibril formation in vitro. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 11360-11365.	7.1	80
16	Fouling of microfiltration membranes by flowback and produced waters from the Marcellus shale gas play. Water Research, 2016, 99, 162-170.	11.3	76
17	Cell Surface Display Fungal Laccase as a Renewable Biocatalyst for Degradation of Persistent Micropollutants Bisphenol A and Sulfamethoxazole. Environmental Science & Technology, 2016, 50, 8799-8808.	10.0	76
18	Biomimetic and bioinspired approaches for wiring enzymes to electrode interfaces. Energy and Environmental Science, 2017, 10, 14-42.	30.8	70

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19	Electron tomography reveals details of the internal microstructure of desalination membranes. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8694-8699.	7.1	69
20	Chemical Degradation of Polyacrylamide during Hydraulic Fracturing. Environmental Science & Technology, 2018, 52, 327-336.	10.0	68
21	The Flocculating Cationic Polypetide from <i>Moringa oleifera</i> Seeds Damages Bacterial Cell Membranes by Causing Membrane Fusion. Langmuir, 2015, 31, 4496-4502.	3.5	66
22	<i>In situ</i> recovery of bio-based carboxylic acids. Green Chemistry, 2018, 20, 1791-1804.	9.0	63
23	Integrated acidogenic digestion and carboxylic acid separation by nanofiltration membranes for the lignocellulosic carboxylate platform. Journal of Membrane Science, 2015, 489, 275-283.	8.2	62
24	A framework for accurate evaluation of the promise of aquaporin based biomimetic membranes. Journal of Membrane Science, 2015, 479, 223-231.	8.2	59
25	Rapid fabrication of precise high-throughput filters from membrane protein nanosheets. Nature Materials, 2020, 19, 347-354.	27.5	59
26	Foldamer-based ultrapermeable and highly selective artificial water channels that exclude protons. Nature Nanotechnology, 2021, 16, 911-917.	31.5	54
27	Nanostructured block copolymer muscles. Nature Nanotechnology, 2022, 17, 752-758.	31.5	53
28	Living biofouling-resistant membranes as a model for the beneficial use of engineered biofilms. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E2802-11.	7.1	52
29	PoreDesigner for tuning solute selectivity in a robust and highly permeable outer membrane pore. Nature Communications, 2018, 9, 3661.	12.8	50
30	Synthesis and Self-Assembly of Cellulose Microfibrils from Reconstituted Cellulose Synthase. Plant Physiology, 2017, 175, 146-156.	4.8	49
31	Conference demographics and footprint changed by virtual platforms. Nature Sustainability, 2022, 5, 149-156.	23.7	47
32	Structure of the Cellulose Synthase Complex of Gluconacetobacter hansenii at 23.4 Ã… Resolution. PLoS ONE, 2016, 11, e0155886.	2.5	43
33	Design Considerations for Artificial Water Channelâ€"Based Membranes. Annual Review of Materials Research, 2018, 48, 57-82.	9.3	40
34	Prospective applications of nanometer-scale pore size biomimetic and bioinspired membranes. Journal of Membrane Science, 2021, 620, 118968.	8.2	40
35	Reactive micromixing eliminates fouling and concentration polarization in reverse osmosis membranes. Journal of Membrane Science, 2017, 542, 8-17.	8.2	39
36	A combined ultrafiltrationâ€"reverse osmosis process for external reuse of Weiyuan shale gas flowback and produced water. Environmental Science: Water Research and Technology, 2018, 4, 942-955.	2.4	39

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37	Artificial water channels: toward and beyond desalination. Current Opinion in Chemical Engineering, 2019, 25, 9-17.	7.8	39
38	Reverse osmosis integrity monitoring. Desalination, 2007, 214, 138-149.	8.2	37
39	Biomimetic Separation of Transport and Matrix Functions in Lamellar Block Copolymer Channel-Based Membranes. ACS Nano, 2019, 13, 8292-8302.	14.6	37
40	Diffusiophoresis contributes significantly to colloidal fouling in low salinity reverse osmosis systems. Journal of Membrane Science, 2015, 479, 67-76.	8.2	33
41	Particle Deposition on Microporous Membranes Can Be Enhanced or Reduced by Salt Gradients. Langmuir, 2014, 30, 793-799.	3.5	32
42	Twoâ€Dimensional Protein Crystals for Solar Energy Conversion. Advanced Materials, 2014, 26, 7064-7069.	21.0	32
43	Emerging investigators series: prospects and challenges for high-pressure reverse osmosis in minimizing concentrated waste streams. Environmental Science: Water Research and Technology, 2018, 4, 894-908.	2.4	32
44	<i>Moringa oleifera f</i>-sand Filters for Sustainable Water Purification. Environmental Science and Technology Letters, 2018, 5, 38-42.	8.7	31
45	Perchlorate Reduction Using Free and Encapsulated <i>Azospira oryzae</i> Enzymes. Environmental Science & Technology, 2013, 47, 9934-9941.	10.0	30
46	Molecular Cloning, Overexpression and Characterization of a Novel Water Channel Protein from Rhodobacter sphaeroides. PLoS ONE, 2014, 9, e86830.	2.5	30
47	Solvent-non-solvent rapid-injection for preparing nanostructured materials from micelles to hydrogels. Nature Communications, 2019, 10, 3855.	12.8	30
48	Bench-scale evaluation of seawater desalination by reverse osmosis. Desalination, 2010, 250, 490-499.	8.2	29
49	Magnetically Directed Two-Dimensional Crystallization of OmpF Membrane Proteins in Block Copolymers. Journal of the American Chemical Society, 2016, 138, 28-31.	13.7	27
50	Biomimetic wiring and stabilization of photosynthetic membrane proteins with block copolymer interfaces. Journal of Materials Chemistry A, 2016, 4, 15457-15463.	10.3	26
51	Polyacrylamide in hydraulic fracturing fluid causes severe membrane fouling during flowback water treatment. Journal of Membrane Science, 2018, 560, 125-131.	8.2	25
52	Membrane Protein Insertion into and Compatibility with Biomimetic Membranes. Advanced Biology, 2017, 1, e1700053.	3.0	24
53	Probing the Internal Microstructure of Polyamide Thin-Film Composite Membranes Using Resonant Soft X-ray Scattering. ACS Macro Letters, 2018, 7, 927-932.	4.8	21
54	Effective Biofouling Control Using Periodic H₂O₂ Cleaning with CuO Modified and Polypropylene Spacers. ACS Sustainable Chemistry and Engineering, 2019, 7, 9582-9587.	6.7	19

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55	7 Log Virus Removal in a Simple Functionalized Sand Filter. Environmental Science & Technology, 2019, 53, 12706-12714.	10.0	17
56	Improving extraction and post-purification concentration of membrane proteins. Analyst, The, 2018, 143, 1378-1386.	3.5	16
57	Creating cross-linked lamellar block copolymer supporting layers for biomimetic membranes. Faraday Discussions, 2018, 209, 179-191.	3.2	15
58	Hierarchical Optimization of High-Performance Biomimetic and Bioinspired Membranes. Langmuir, 2019, 35, 589-607.	3.5	15
59	Lipid-Functionalized Graphene Loaded with hMnSOD for Selective Inhibition of Cancer Cells. ACS Applied Materials & Interfaces, 2020, 12, 12407-12416.	8.0	15
60	Role of Pore-Lining Residues in Defining the Rate of Water Conduction by Aquaporin-0. Biophysical Journal, 2017, 112, 953-965.	0.5	14
61	Harnessing blue energy with COF membranes. Nature Nanotechnology, 2022, 17, 564-566.	31.5	14
62	<i>InÂvitro</i> synthesis of cellulose microfibrils by a membrane protein from protoplasts of the non-vascular plant <i>Physcomitrella patens</i>. Biochemical Journal, 2015, 470, 195-205.	3.7	13
63	Unique selectivity trends of highly permeable PAP[5] water channel membranes. Faraday Discussions, 2018, 209, 193-204.	3.2	13
64	PEEâ€“PEO Block Copolymer Exchange Rate between Mixed Micelles Is Detergent and Temperature Activated. Macromolecules, 2017, 50, 2484-2494.	4.8	12
65	Fluorofoldamer-Based Salt- and Proton-Rejecting Artificial Water Channels for Ultrafast Water Transport. Nano Letters, 2022, 22, 4831-4838.	9.1	12
66	Advancing Rhodobacter sphaeroides as a platform for expression of functional membrane proteins. Protein Expression and Purification, 2015, 115, 109-117.	1.3	10
67	Concentrating membrane proteins using ultrafiltration without concentrating detergents. Biotechnology and Bioengineering, 2016, 113, 2122-2130.	3.3	10
68	Biomimetic water channels: general discussion. Faraday Discussions, 2018, 209, 205-229.	3.2	10
69	Membrane science emerging as a convergent scientific field with molecular origins and understanding, and global impact. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	10
70	Light-Driven Chloride Transport Kinetics of Halorhodopsin. Biophysical Journal, 2018, 115, 353-360.	0.5	9
71	Rapid screening and scaleâ€up of ultracentrifugationâ€free, membraneâ€based procedures for purification of Hisâ€tagged membrane proteins. Biotechnology Progress, 2019, 35, e2859.	2.6	9
72	Influence of block sequence on the colloidal self-assembly of poly(norbornene)-<i>block</i>-poly(ethylene oxide) amphiphilic block polymers using rapid injection processing. Polymer Chemistry, 2020, 11, 375-384.	3.9	9

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73	Current status and future directions of self-assembled block copolymer membranes for molecular separations. Soft Matter, 2021, 17, 10405-10415.	2.7	8
74	GhoT of the GhoT/GhoS toxin/antitoxin system damages lipid membranes by forming transient pores. Biochemical and Biophysical Research Communications, 2018, 497, 467-472.	2.1	7
75	Scalable Pillar[5]arene-Integrated Poly(arylate-amide) Molecular Sieve Membranes to Separate Light Gases. Chemistry of Materials, 2022, 34, 6559-6567.	6.7	7
76	Can Fibrous Mats Outperform Current Ultrafiltration and Microfiltration Membranes?. Industrial & Engineering Chemistry Research, 2017, 56, 10438-10447.	3.7	6
77	Mechanical degradation of polyacrylamide at ultra high deformation rates during hydraulic fracturing. Environmental Science: Water Research and Technology, 2020, 6, 166-172.	2.4	6
78	Microbial diversity analysis of two full-scale seawater desalination treatment trains provides insights into detrimental biofilm formation. , 2021, 1, 100001.		6
79	Characterization of the Lipid Structure and Fluidity of Lipid Membranes on Epitaxial Graphene and Their Correlation to Graphene Features. Langmuir, 2019, 35, 4726-4735.	3.5	5
80	Chemically specific coarse-grained models to investigate the structure of biomimetic membranes. RSC Advances, 2017, 7, 54756-54771.	3.6	4
81	Structure and function of natural proteins for water transport: general discussion. Faraday Discussions, 2018, 209, 83-95.	3.2	4
82	Applications to water transport systems: general discussion. Faraday Discussions, 2018, 209, 389-414.	3.2	4
83	Liposome-based measurement of light-driven chloride transport kinetics of halorhodopsin. Biochimica Et Biophysica Acta - Biomembranes, 2021, 1863, 183637.	2.6	4
84	Inactivation Mechanism and Efficacy of Grape Seed Extract for Human Norovirus Surrogate. Applied and Environmental Microbiology, 2022, 88, e0224721.	3.1	4
85	Quantitative Analysis of Transient Intertidal Submarine Groundwater Discharge in Coastal Aquifer of Western Japan. Proceedings of the National Academy of Sciences India Section A - Physical Sciences, 2017, 87, 423-432.	1.2	3
86	Porous Vesicles with Extrusionâ€Tunable Permeability and Pore Size from Mixed Solutions of PEOâ€“PPOâ€“PEO Triblock Copolymers. Macromolecular Chemistry and Physics, 2018, 219, 1700620.	2.2	3
87	Highlights from the Faraday Discussion on Artificial Water Channels, Glasgow, UK. Chemical Communications, 2019, 55, 3853-3858.	4.1	3
88	Quantum transport in three-dimensional metalattices of platinum featuring an unprecedentedly large surface area to volume ratio. Physical Review Materials, 2020, 4, .	2.4	3
89	Effective pathogen removal in sustainable natural fiber Moringa filters. Npj Clean Water, 2022, 5, .	8.0	3
90	The modelling and enhancement of water hydrodynamics: general discussion. Faraday Discussions, 2018, 209, 273-285.	3.2	2

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91	Simultaneous Removal of Oil and Bacteria in a Natural Fiber Filter. Environmental Science and Technology Letters, 0, , .	8.7	2
92	Homogeneous hybrid droplet interface bilayers assembled from binary mixtures of DPhPC phospholipids and PB-b-PEO diblock copolymers. Biochimica Et Biophysica Acta - Biomembranes, 2022, 1864, 183997.	2.6	2
93	Beneficial biofilm works as a â€œprobioticâ€•to control membrane biofouling. Membrane Technology, 2016, 2016, 8.	0.1	1
94	Measuring Transport Kinetics of Light Driven Membrane Protein, Halorhodopsin. Biophysical Journal, 2018, 114, 146a.	0.5	1
95	Biomimetic Membrane Design Principles for Angstrom Scale Separation. Biophysical Journal, 2018, 114, 361a.	0.5	0
96	An Enhanced Platform for Bioelectrochemical Systems: A Novel Approach to Characterize Lipid Structure on Graphene. Biophysical Journal, 2018, 114, 98a.	0.5	0
97	Purification of an Engineered Membrane Protein FhuA for Size-Dependent Separation. Biophysical Journal, 2019, 116, 346a.	0.5	0