Peter Pohl

List of Publications by Year
in descending order

115	6,399	57631 44	74018 75
papers	citations	h-index	g-index

126	126	126	6815
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Water Determines the Structure and Dynamics of Proteins. Chemical Reviews, 2016, 116, 7673-7697.	23.0	645
2	Protons and Hydroxide Ions in Aqueous Systems. Chemical Reviews, 2016, 116, 7642-7672.	23.0	358
3	No facilitator required for membrane transport of hydrogen sulfide. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 16633-16638.	3.3	309
4	110 Years of the Meyerâ€"Overton Rule: Predicting Membrane Permeability of Gases and Other Small Compounds. ChemPhysChem, 2009, 10, 1405-1414.	1.0	193
5	Fast and Selective Ammonia Transport by Aquaporin-8. Journal of Biological Chemistry, 2007, 282, 5296-5301.	1.6	185
6	Carbon Dioxide Transport through Membranes. Journal of Biological Chemistry, 2008, 283, 25340-25347.	1.6	143
7	The Size of the Unstirred Layer as a Function of the Solute Diffusion Coefficient. Biophysical Journal, 1998, 75, 1403-1409.	0.2	139
8	The mobility of single-file water molecules is governed by the number of H-bonds they may form with channel-lining residues. Science Advances, 2015, 1, e1400083.	4.7	135
9	Intrinsic Membrane Permeability to Small Molecules. Chemical Reviews, 2019, 119, 5922-5953.	23.0	135
10	Compartmentalization of cAMP-Dependent Signaling by Phosphodiesterase-4D Is Involved in the Regulation of Vasopressin-Mediated Water Reabsorption in Renal Principal Cells. Journal of the American Society of Nephrology: JASN, 2007, 18, 199-212.	3.0	134
11	Ultrasound enhancement of liposome-mediated cell transfection is caused by cavitation effects. Ultrasound in Medicine and Biology, 2000, 26, 897-903.	0.7	118
12	Structural Proton Diffusion along Lipid Bilayers. Biophysical Journal, 2003, 84, 1031-1037.	0.2	115
13	Water and Ion Permeation of Aquaporin-1 in Planar Lipid Bilayers. Journal of Biological Chemistry, 2001, 276, 31515-31520.	1.6	111
14	Water at hydrophobic interfaces delays proton surface-to-bulk transfer and provides a pathway for lateral proton diffusion. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 9744-9749.	3.3	104
15	Determining the Conductance of the SecY Protein Translocation Channel for Small Molecules. Molecular Cell, 2007, 26, 501-509.	4.5	102
16	Protons migrate along interfacial water without significant contributions from jumps between ionizable groups on the membrane surface. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 14461-14466.	3.3	100
17	Origin of membrane dipole potential: Contribution of the phospholipid fatty acid chains. Chemistry and Physics of Lipids, 2002, 117, 19-27.	1.5	95
18	Highly selective water channel activity measured by voltage clamp: Analysis of planar lipid bilayers reconstituted with purified AqpZ. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 9624-9629.	3.3	93

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19	Water Permeation through Gramicidin A: Desformylation and the Double Helix: A Molecular Dynamics Study. Biophysical Journal, 2002, 82, 2934-2942.	0.2	89
20	Permeation of ammonia across bilayer lipid membranes studied by ammonium ion selective microelectrodes. Biophysical Journal, 1997, 72, 2187-2195.	0.2	80
21	(Coumarin-4-yl)methyl Esters as Highly Efficient, Ultrafast Phototriggers for Protons and Their Application to Acidifying Membrane Surfaces. Angewandte Chemie - International Edition, 2005, 44, 1195-1198.	7.2	79
22	A Critical Reassessment of Penetratin Translocation Across Lipid Membranes. Biophysical Journal, 2005, 89, 2513-2521.	0.2	76
23	Water Permeability of Asymmetric Planar Lipid Bilayers. Journal of General Physiology, 2001, 118, 333-340.	0.9	75
24	A New Model of Weak Acid Permeation through Membranes Revisited: Does Overton Still Rule?. Biophysical Journal, 2006, 90, L86-L88.	0.2	73
25	Cyclic AMP is sufficient for triggering the exocytic recruitment of aquaporinâ€2 in renal epithelial cells. EMBO Reports, 2003, 4, 88-93.	2.0	72
26	Photosensitizer Binding to Lipid Bilayers as a Precondition for the Photoinactivation of Membrane Channels. Biophysical Journal, 2000, 78, 2572-2580.	0.2	71
27	Beyond the diffusion limit: Water flow through the empty bacterial potassium channel. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 4805-4809.	3.3	71
28	Local Partition Coefficients Govern Solute Permeability of Cholesterol-Containing Membranes. Biophysical Journal, 2013, 105, 2760-2770.	0.2	67
29	Elastic Membrane Deformations Govern Interleaflet Coupling of Lipid-Ordered Domains. Physical Review Letters, 2015, 115, 088101.	2.9	66
30	Weak acid transport across bilayer lipid membrane in the presence of buffers. Theoretical and experimental pH profiles in the unstirred layers. Biophysical Journal, 1993, 64, 1701-1710.	0.2	65
31	Single-file transport of water through membrane channels. Faraday Discussions, 2018, 209, 9-33.	1.6	65
32	The effect of a transmembrane osmotic flux on the ion concentration distribution in the immediate membrane vicinity measured by microelectrodes. Biophysical Journal, 1997, 72, 1711-1718.	0.2	62
33	Filter gate closure inhibits ion but not water transport through potassium channels. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 10842-10847.	3.3	61
34	Permeation of phloretin across bilayer lipid membranes monitored by dipole potential and microelectrode measurements. Biochimica Et Biophysica Acta - Biomembranes, 1997, 1323, 163-172.	1.4	60
35	Mechanism of Long-Chain Free Fatty Acid Protonation at the Membrane-Water Interface. Biophysical Journal, 2018, 114, 2142-2151.	0.2	57
36	Intrinsic CO₂ Permeability of Cell Membranes and Potential Biological Relevance of CO₂ Channels. ChemPhysChem, 2011, 12, 1017-1019.	1.0	56

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37	Changes of Intrinsic Membrane Potentials Induced by Flip-Flop of Long-Chain Fatty Acidsâ€. Biochemistry, 2000, 39, 1834-1839.	1.2	54
38	Transport Kinetics of Uncoupling Proteins. Journal of Biological Chemistry, 2003, 278, 32497-32500.	1.6	52
39	Aquaporin-1, Nothing but a Water Channel. Journal of Biological Chemistry, 2004, 279, 11364-11367.	1.6	51
40	Ionophoric Activity of Pluronic Block Copolymersâ€. Biochemistry, 2004, 43, 3696-3703.	1.2	50
41	High-Speed AFM Images of Thermal Motion Provide Stiffness Map of Interfacial Membrane Protein Moieties. Nano Letters, 2015, 15, 759-763.	4.5	49
42	Origin of proton affinity to membrane/water interfaces. Scientific Reports, 2017, 7, 4553.	1.6	49
43	Desformylgramicidin: A Model Channel with an Extremely High Water Permeability. Biophysical Journal, 2000, 79, 2526-2534.	0.2	47
44	Mobility of a One-Dimensional Confined File of Water Molecules as a Function of File Length. Physical Review Letters, 2006, 96, 148101.	2.9	46
45	Solvent Drag across Gramicidin Channels Demonstrated by Microelectrodes. Biophysical Journal, 2000, 78, 2426-2434.	0.2	45
46	YidC and SecYEG form a heterotetrameric protein translocation channel. Scientific Reports, 2017, 7, 101.	1.6	45
47	The Bacterial Translocon SecYEG Opens upon Ribosome Binding. Journal of Biological Chemistry, 2013, 288, 17941-17946.	1.6	42
48	Changes of the membrane potential profile induced by verapamil and propranolol. Biochimica Et Biophysica Acta - Biomembranes, 1998, 1373, 170-178.	1.4	41
49	Effect of ultrasound on the pH profiles in the unstirred layers near planar bilayer lipid membranes measured by microelectrodes. Biochimica Et Biophysica Acta - Biomembranes, 1993, 1152, 155-160.	1.4	40
50	Long and Short Lipid Molecules Experience the Same Interleaflet Drag in Lipid Bilayers. Physical Review Letters, 2013, 110, 268101.	2.9	40
51	Effects of secreted factors in culture medium of annulus fibrosus cells on microvascular endothelial cells: elucidating the possible pathomechanisms of matrix degradation and nerve in-growth in disc degeneration. Osteoarthritis and Cartilage, 2014, 22, 344-354.	0.6	39
52	Proton exclusion by an aquaglyceroprotein: a voltage clamp study. Biology of the Cell, 2005, 97, 545-550.	0.7	38
53	Coupled Diffusion of Peripherally Bound Peptides along the Outer and Inner Membrane Leaflets. Biophysical Journal, 2009, 96, 2689-2695.	0.2	38
54	The Sodium Glucose Cotransporter SGLT1 Is an Extremely Efficient Facilitator of Passive Water Transport. Journal of Biological Chemistry, 2016, 291, 9712-9720.	1.6	38

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55	Label-free and charge-sensitive dynamic imaging of lipid membrane hydration on millisecond time scales. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 4081-4086.	3.3	38
56	Passive Permeability of Planar Lipid Bilayers toÂOrganic Anions. Biophysical Journal, 2018, 115, 1931-1941.	0.2	38
57	Immunotoxins containing A-chain of mistletoe lectin I are more active than immunotoxins with ricin A-chain. FEBS Letters, 1996, 392, 166-168.	1.3	36
58	Positively charged residues at the channel mouth boost single-file water flow. Faraday Discussions, 2018, 209, 55-65.	1.6	35
59	Undulations Drive Domain Registration from theÂTwo Membrane Leaflets. Biophysical Journal, 2017, 112, 339-345.	0.2	34
60	Tuning membrane protein mobility by confinement into nanodomains. Nature Nanotechnology, 2017, 12, 260-266.	15.6	34
61	Passive transport across bilayer lipid membranes: Overton continues to rule. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, E123; author reply E124.	3.3	33
62	Comment on â€œEnhanced water permeability and tunable ion selectivity in subnanometer carbon nanotube porinsâ€. Science, 2018, 359, .	6.0	33
63	Understanding Conformational Dynamics of Complex Lipid Mixtures Relevant to Biology. Journal of Membrane Biology, 2018, 251, 609-631.	1.0	33
64	Invariance of Single-File Water Mobility in Gramicidin-like Peptidic Pores as Function of Pore Length. Biophysical Journal, 2007, 92, 3930-3937.	0.2	31
65	Combined transport of water and ions through membrane channels. Biological Chemistry, 2004, 385, 921-6.	1.2	30
66	Effects of ultrasound on the steady-state transmembrane pH gradient and the permeability of acetic acid through bilayer lipid membranes. Biochimica Et Biophysica Acta - Biomembranes, 1993, 1145, 279-283.	1.4	29
67	Membrane Permeabilities of Ascorbic Acid and Ascorbate. Biomolecules, 2018, 8, 73.	1.8	29
68	Ordered Lipid Domains Assemble via Concerted Recruitment of Constituents from Both Membrane Leaflets. Physical Review Letters, 2020, 124, 108102.	2.9	29
69	Coupling of proton source and sink via H+ -migration along the membrane surface as revealed by double patch-clamp experiments. FEBS Letters, 1998, 429, 197-200.	1.3	27
70	Routes of Epithelial Water Flow: Aquaporins versus Cotransporters. Biophysical Journal, 2010, 99, 3647-3656.	0.2	27
71	Real-Time Monitoring of Membrane-Protein Reconstitution by Isothermal Titration Calorimetry. Analytical Chemistry, 2014, 86, 920-927.	3.2	27
72	Driving Forces of Translocation Through Bacterial Translocon SecYEG. Journal of Membrane Biology, 2018, 251, 329-343.	1.0	27

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73	Membrane fusion mediated by ricin and viscumin. Biochimica Et Biophysica Acta - Biomembranes, 1998, 1371, 11-16.	1.4	26
74	Ion Conductivity of the Bacterial Translocation Channel SecYEG Engaged in Translocation. Journal of Biological Chemistry, 2014, 289, 24611-24616.	1.6	25
75	Membrane Transport of Singlet Oxygen Monitored by Dipole Potential Measurements. Biophysical Journal, 2009, 96, 77-85.	0.2	24
76	Visualization of the Reaction Layer in the Immediate Membrane Vicinity. Archives of Biochemistry and Biophysics, 1996, 333, 225-232.	1.4	23
77	Kinetic properties of cation/H+-exchange: calcimycin (A23187)-mediated Ca2+/2H+-exchange on the bilayer lipid membrane. Biochimica Et Biophysica Acta - Biomembranes, 1990, 1027, 295-300.	1.4	21
78	Effects of ultrasound on agglutination and aggregation of human erythrocytes in vitro. Ultrasound in Medicine and Biology, 1995, 21, 711-719.	0.7	21
79	Microinjection in combination with microfluorimetry to study proton diffusion along phospholipid membranes. European Biophysics Journal, 2008, 37, 865-870.	1.2	21
80	Membrane destabilization by ricin. European Biophysics Journal, 2004, 33, 572-579.	1.2	20
81	Mechanism for Targeting the A-kinase Anchoring Protein AKAP18Î´ to the Membrane. Journal of Biological Chemistry, 2012, 287, 42495-42501.	1.6	20
82	Voltage-sensitive styryl dyes as singlet oxygen targets on the surface of bilayer lipid membrane. Journal of Photochemistry and Photobiology B: Biology, 2016, 161, 162-169.	1.7	19
83	Monitoring Single-channel Water Permeability in Polarized Cells. Journal of Biological Chemistry, 2011, 286, 39926-39932.	1.6	18
84	The energetic barrier to single-file water flow through narrow channels. Biophysical Reviews, 2021, 13, 913-923.	1.5	18
85	The role of structural domains in RIP II toxin model membrane binding. FEBS Letters, 1997, 402, 91-93.	1.3	17
86	Residence time of singlet oxygen in membranes. Scientific Reports, 2018, 8, 14000.	1.6	17
87	The Effect of Buffers on Weak Acid Uptake by Vesicles. Biomolecules, 2019, 9, 63.	1.8	17
88	Photoswitching of model ion channels in lipid bilayers. Journal of Photochemistry and Photobiology B: Biology, 2021, 224, 112320.	1.7	17
89	Cholesterol's decoupling effect on membrane partitioning and permeability revisited: Is there anything beyond Fick's law of diffusion?. Biochimica Et Biophysica Acta - Biomembranes, 2008, 1778, 2154-2156.	1.4	15
90	Uroplakins Do Not Restrict CO2 Transport through Urothelium. Journal of Biological Chemistry, 2012, 287, 11011-11017.	1.6	15

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91	Micropipette Aspirationâ€Based Assessment of Single Channel Water Permeability. Biotechnology Journal, 2020, 15, e1900450.	1.8	15
92	Membrane Photopotential Generation by Interfacial Differences in the Turnover of a Photodynamic Reaction. Biophysical Journal, 2000, 79, 2121-2131.	0.2	14
93	Influence of Amphiphilic Block Copolymer Induced Changes in Membrane Ion Conductance on the Reversal of Multidrug Resistance. Journal of Medicinal Chemistry, 2008, 51, 4253-4259.	2.9	14
94	GalimzyanovetÂal.Reply:. Physical Review Letters, 2016, 116, 079802.	2.9	14
95	Elastic deformations of bolalipid membranes. Soft Matter, 2016, 12, 2357-2364.	1.2	13
96	Interfacial water molecules at biological membranes: Structural features and role for lateral proton diffusion. PLoS ONE, 2018, 13, e0193454.	1.1	12
97	Dehydration of Model Membranes Induced by Lectins from Ricinuscommunis and Viscumalbum. Biophysical Journal, 1998, 75, 2868-2876.	0.2	11
98	Voltage Sensing in Bacterial Protein Translocation. Biomolecules, 2020, 10, 78.	1.8	11
99	Steady-state nonmonotonic concentration profiles in the unstirred layers of bilayer lipid membranes. Biochimica Et Biophysica Acta - Biomembranes, 1995, 1235, 57-61.	1.4	10
100	Biomimetic water channels: general discussion. Faraday Discussions, 2018, 209, 205-229.	1.6	10
101	Elasticity and phase behaviour of biomimetic membrane systems containing tetraether archaeal lipids. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2020, 601, 124974.	2.3	9
102	Electrostatically Induced Recruitment of Membrane Peptides into Clusters Requires Ligand Binding at Both Interfaces. PLoS ONE, 2012, 7, e52839.	1.1	9
103	Design of Peptide-Membrane Interactions to Modulate Single-File Water Transport through Modified Gramicidin Channels. Biophysical Journal, 2012, 103, 1698-1705.	0.2	8
104	Determinants of Lipid Domain Size. International Journal of Molecular Sciences, 2022, 23, 3502.	1.8	7
105	Interaction of the motor protein SecA and the bacterial protein translocation channel SecYEG in the absence of ATP. Nanoscale Advances, 2020, 2, 3431-3443.	2.2	6
106	A consensus segment in the M2 domain of the hP2X7 receptor shows ion channel activity in planar lipid bilayers and in biological membranes. Biochimica Et Biophysica Acta - Biomembranes, 2012, 1818, 64-71.	1.4	5
107	Structure and function of natural proteins for water transport: general discussion. Faraday Discussions, 2018, 209, 83-95.	1.6	4
108	Applications to water transport systems: general discussion. Faraday Discussions, 2018, 209, 389-414.	1.6	4

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109	Effect of block architecture on the ability of polyalkylene oxides to overcome multidrug resistance of tumor cells. Journal of Drug Delivery Science and Technology, 2006, 16, 259-265.	1.4	3
110	Mobility of Single-File Water Molecules in Aquaporins. Biophysical Journal, 2015, 108, 182a.	0.2	2
111	Water transport. Membrane Science and Technology, 2003, , 295-314.	0.5	1
112	Oxidation and lateral diffusion of styryl dyes on the surface of a bilayer lipid membrane. Russian Journal of Electrochemistry, 2017, 53, 1171-1181.	0.3	1
113	Volume Flux Across Red Cell AQP1 and E. Coli AQPZ Water Channel Proteins Reconstituted into Planar Lipid Bilayers. , 2000, , 41-48.		1
114	Biophysical Reviewsâ€™ â€œMeet the Councilor Seriesâ€â€"a profile of Peter Pohl. Biophysical Reviews, 2021, 13, 839-844.	1.5	1
115	Hochschulen und Forschungsinstitute. Nachrichten Aus Der Chemie, 2006, 54, 360-360.	0.0	0