Antonio Alcaraz

List of Publications by Year
in descending order

88 papers	2,251 citations	257357 24 h-index	223716 46 g-index
88 all docs	88 docs citations	88 times ranked	2671 citing authors

#	Article	IF	Citations
1	Dynorphin A induces membrane permeabilization by formation of proteolipidic pores. Insights from electrophysiology and computational simulations. Computational and Structural Biotechnology Journal, 2022, 20, 230-240.	1.9	4
2	Single-molecule conformational dynamics of viroporin ion channels regulated by lipid-protein interactions. Bioelectrochemistry, 2021, 137, 107641.	2.4	9
3	Specific adsorption of trivalent cations in biological nanopores determines conductance dynamics and reverses ionic selectivity. Physical Chemistry Chemical Physics, 2021, 23, 1352-1362.	1.3	4
4	Assessing the Role of Electrostatic Interactions in the Mechanism of Beta-Barrel Channel Gating. Biophysical Journal, 2021, 120, 156a.	0.2	0
5	Dynorphin a Induces Membrane Permeabilization by Formation of Proteolipidic Pores. Biophysical Journal, 2021, 120, 142a.	0.2	0
6	Transport mechanisms of SARS-CoV-E viroporin in calcium solutions: Lipid-dependent Anomalous Mole Fraction Effect and regulation of pore conductance. Biochimica Et Biophysica Acta - Biomembranes, 2021, 1863, 183590.	1.4	13
7	Gating of Bacterial Beta-Barrel Channels is Regulated by Salt Concentration and Lipid Composition. Biophysical Journal, 2020, 118, 416a.	0.2	0
8	Lipid Headgroup Charge and Acyl Chain Composition Modulate Closure of Bacterial Î²-Barrel Channels. International Journal of Molecular Sciences, 2019, 20, 674.	1.8	11
9	Structural biology workflow for the expression and characterization of functional human sodium glucose transporter type 1 in Pichia pastoris. Scientific Reports, 2019, 9, 1203.	1.6	8
10	Mutation-induced changes of transmembrane pore size revealed by combined ion-channel conductance and single vesicle permeabilization analyses. Biochimica Et Biophysica Acta - Biomembranes, 2018, 1860, 1015-1021.	1.4	7
11	Effect of the Endosomal Acidification on Small Ion Transport Through the Anthrax Toxin PA63 Channel. Biophysical Journal, 2018, 114, 559a.	0.2	0
12	Interfacial Effects Dominate Ion Permeation through Membrane Channels in Low Ionic Strength Solutions. Biophysical Journal, 2018, 114, 260a.	0.2	0
13	Scaling Behavior of Ionic Transport in Membrane Nanochannels. Nano Letters, 2018, 18, 6604-6610.	4.5	20
14	Scaling Laws for Ionic Transport in Nanochannels: Bulk, Surface and Interfacial Effects. Biophysical Journal, 2018, 114, 609a.	0.2	0
15	Fluctuation-Driven Transport in Bacterial Channels under Acidic Stress. Biophysical Journal, 2017, 112, 545a.	0.2	0
16	Effect of endosomal acidification on small ion transport through the anthrax toxin <scp>PA</scp>₆₃ channel. FEBS Letters, 2017, 591, 3481-3492.	1.3	5
17	Ion Transport in Confined Geometries below the Nanoscale: Access Resistance Dominates Protein Channel Conductance in Diluted Solutions. ACS Nano, 2017, 11, 10392-10400.	7.3	30
18	Fluctuation-Driven Transport in Biological Nanopores. A 3D Poissonâ€"Nernstâ€"Planck Study. Entropy, 2017, 19, 116.	1.1	7

#	Article	IF	Citations
19	Bioelectrical Signals and Ion Channels in the Modeling of Multicellular Patterns and Cancer Biophysics. Scientific Reports, 2016, 6, 20403.	1.6	55
20	Buried Charges and their Effect on Ion Channel Selectivity. Analytical Solutions, Numerical Calculations and MD Simulations. Biophysical Journal, 2016, 110, 245a.	0.2	0
21	CSFV p7 Viroporin ION Channel Activity in Lipid Bilayers Mimicking theÂER Membrane. Biophysical Journal, 2016, 110, 115a.	0.2	1
22	On the different sources of cooperativity in pH titrating sites of a membrane protein channel. European Physical Journal E, 2016, 39, 29.	0.7	2
23	Effects of extreme pH on ionic transport through protein nanopores: the role of ion diffusion and charge exclusion. Physical Chemistry Chemical Physics, 2016, 18, 21668-21675.	1.3	10
24	Stochastic pumping of ions based on colored noise in bacterial channels under acidic stress. Nanoscale, 2016, 8, 13422-13428.	2.8	12
25	Ion channel activity of the CSFV p7 viroporin in surrogates of the ER lipid bilayer. Biochimica Et Biophysica Acta - Biomembranes, 2016, 1858, 30-37.	1.4	14
26	Excess white noise to probe transport mechanisms in a membrane channel. Physical Review E, 2015, 91, 062704.	0.8	4
27	Relevance of SARS-CoV E Protein Ion Channel Activity in Virus Pathogenesis. Biophysical Journal, 2015, 108, 582a.	0.2	0
28	Selectivity of Protein Ion Channels and the Role of Buried Charges. Analytical Solutions, Numerical Calculations, and MD Simulations. Journal of Physical Chemistry B, 2015, 119, 8475-8479.	1.2	8
29	Current Fluctuation Analysis in a Protein Nanopore. Biophysical Journal, 2015, 108, 634a.	0.2	0
30	Bacterial Porins. Springer Series in Biophysics, 2015, , 101-121.	0.4	0
31	Severe Acute Respiratory Syndrome Coronavirus Envelope Protein Ion Channel Activity Promotes Virus Fitness and Pathogenesis. PLoS Pathogens, 2014, 10, e1004077.	2.1	440
32	Lipid charge regulation of non-specific biological ion channels. Physical Chemistry Chemical Physics, 2014, 16, 3881-3893.	1.3	21
33	Entropyâ€"enthalpy compensation at the single protein level: pH sensing in the bacterial channel OmpF. Nanoscale, 2014, 6, 15210-15215.	2.8	7
34	Membrane Potential Bistability in Nonexcitable Cells as Described by Inward and Outward Voltage-Gated Ion Channels. Journal of Physical Chemistry B, 2014, 118, 12444-12450.	1.2	32
35	Amphiphilic COSAN and I2-COSAN crossing synthetic lipid membranes: planar bilayers and liposomes. Chemical Communications, 2014, 50, 6700.	2.2	68
36	Experimental demonstration of charge inversion in a protein channel in the presence of monovalent cations. Electrochemistry Communications, 2014, 48, 32-34.	2.3	8

#	ARTICLE	IF	CITATIONS
37	Experimental Observation of Surface Charge Inversion in a Biological Nanopore in Presence of Monovalent and Multivalent Cations. Biophysical Journal, 2014, 106, 210a.	0.2	0
38	Electrical Pumping of Potassium Ions Against an External Concentration Gradient in a Biological Ion Channel. Biophysical Journal, 2014, 106, 416a.	0.2	0
39	Cobaltabisdicarbollide Macroanion is able to Diffuse across the Lipid Membrane; Study of Kinetics and Transport. Biophysical Journal, 2014, 106, 210a.	0.2	0
40	Current Fluctuation Analysis to Study Mg2+-Binding in the Bacterial Porin OmpF. Biophysical Journal, 2013, 104, 630a.	0.2	0
41	Analysis of SARS-CoV E protein ion channel activity by tuning the protein and lipid charge. Biochimica Et Biophysica Acta - Biomembranes, 2013, 1828, 2026-2031.	1.4	82
42	Electrical pumping of potassium ions against an external concentration gradient in a biological ion channel. Applied Physics Letters, 2013, 103, .	1.5	36
43	Ion Channels Formed by SARS Coronavirus Envelope Protein: Lipid Regulation of Conductance and Selectivity. Biophysical Journal, 2013, 104, 632a.	0.2	1
44	Electrostatic Interactions Drive the Nonsteric Directional Block of OmpF Channel by La³⁺. Langmuir, 2013, 29, 15320-15327.	1.6	10
45	La3+-Induced Asymmetric Current Inhibition in OmpF Channel. Biophysical Journal, 2013, 104, 630a.	0.2	0
46	Hydrophobic Pulmonary Surfactant Proteins SP-B and SP-C Induce Pore Formation in Planar Lipid Membranes: Evidence for Proteolipid Pores. Biophysical Journal, 2013, 104, 146-155.	0.2	45
47	Divalent Metal Ion Transport across Large Biological Ion Channels and Their Effect on Conductance and Selectivity. Biochemistry Research International, 2012, 2012, 1-12.	1.5	6
48	Modulation of Conductance and Ion Selectivity of OmpF Porin by La3+ÂIons. Biophysical Journal, 2012, 102, 335a.	0.2	0
49	On Channel Activity of Synthetic Peptides Derived from Severe and Acute Respiratory Syndrome Coronavirus (SARS-CoV) E Protein. Biophysical Journal, 2012, 102, 656a-657a.	0.2	2
50	Protein Ion Channels as Molecular Ratchets. Switchable Current Modulation in Outer Membrane Protein F Porin Induced by Millimolar La³⁺ Ions. Journal of Physical Chemistry C, 2012, 116, 6537-6542.	1.5	28
51	Coronavirus E protein forms ion channels with functionally and structurally-involved membrane lipids. Virology, 2012, 432, 485-494.	1.1	189
52	Increased salt concentration promotes competitive block of OmpF channel by protons. Biochimica Et Biophysica Acta - Biomembranes, 2012, 1818, 2777-2782.	1.4	16
53	Entropic Modulation of Ion Transport through OmpF Channel. Molecular Basis of pH Sensing Derived from Cooperative Interactions. Biophysical Journal, 2012, 102, 269a-270a.	0.2	1
54	Divalent cations reduce the pH sensitivity of OmpF channel inducing the pK_ashift of key acidic residues. Physical Chemistry Chemical Physics, 2011, 13, 563-569.	1.3	18

#	Article	IF	Citations
55	Insights on the permeability of wide protein channels: measurement and interpretation of ion selectivity. Integrative Biology (United Kingdom), 2011, 3, 159-172.	0.6	49
56	Divalent Cations Reduce the pH Sensitivity of OmpF Channel Inducing the PKA Shift of Key Acidic Residues. Biophysical Journal, 2011, 100, 331a.	0.2	0
57	Measurement and Interpretation of Ion Selectivity in Wide Channels: Merging Information from Different Approaches. Biophysical Journal, 2011, 100, 577a.	0.2	0
58	Effect of Hydrophobic Surfactant Proteins SP-B and SP-C on the Permeability of Phospholipid Membranes. Biophysical Journal, 2011, 100, 337a.	0.2	0
59	Effects of Divalent Cations on the Single-Channel Conductance of the OmpF Channel: Linearity, Saturation and Blocking. Biophysical Journal, 2011, 100, 577a.	0.2	0
60	Linearity, saturation and blocking in a large multiionic channel: Divalent cation modulation of the OmpF porin conductance. Biochemical and Biophysical Research Communications, 2011, 404, 330-334.	1.0	15
61	Overcharging below the nanoscale: Multivalent cations reverse the ion selectivity of a biological channel. Physical Review E, 2010, 81, 021912.	0.8	40
62	Overcharging Below the Nanoscale: Multivalent Cations Reverse the Ion Selectivity of a Biological Channel. Biophysical Journal, 2010, 98, 17a.	0.2	0
63	Increased Salt Concentration Promotes Negative Cooperativity in OmpF Channel. Biophysical Journal, 2010, 98, 333a.	0.2	0
64	A fluid approach to simple circuits. Nature Nanotechnology, 2009, 4, 403-404.	15.6	16
65	Directional ion selectivity in a biological nanopore with bipolar structure. Journal of Membrane Science, 2009, 331, 137-142.	4.1	38
66	Diffusion, Exclusion, and Specific Binding in a Large Channel: A Study of OmpF Selectivity Inversion. Biophysical Journal, 2009, 96, 56-66.	0.2	77
67	Dielectric saturation of water in a membrane protein channel. Physical Chemistry Chemical Physics, 2009, 11, 358-365.	1.3	58
68	Dielectric Saturation of Water in a Protein Channel. Biophysical Journal, 2009, 96, 603a.	0.2	0
69	Ion Selectivity of a Biological Channel at High Concentration Ratio: Insights on Small Ion Diffusion and Binding. Journal of Physical Chemistry B, 2009, 113, 8745-8751.	1.2	27
70	Negative Cooperativity in a Protein Ion Channel Revealed by Current Noise, Conductance and Selectivity Experiments. Biophysical Journal, 2009, 96, 603a.	0.2	0
71	Directional Ion Selectivity In An Ion Channel With Bipolar Charge Distribution. Biophysical Journal, 2009, 96, 662a.	0.2	0
72	Electrostatic properties and macroscopic electrodiffusion in OmpF porin and mutants. Bioelectrochemistry, 2007, 70, 320-327.	2.4	40

#	Article	IF	Citations
73	A pH-Tunable Nanofluidic Diode:Â Electrochemical Rectification in a Reconstituted Single Ion Channel. Journal of Physical Chemistry B, 2006, 110, 21205-21209.	1.2	117
74	Salting Out the Ionic Selectivity of a Wide Channel: The Asymmetry of OmpF. Biophysical Journal, 2004, 87, 943-957.	0.2	155
75	Modeling of pH-Switchable Ion Transport and Selectivity in Nanopore Membranes with Fixed Charges. Journal of Physical Chemistry B, 2003, 107, 13178-13187.	1.2	64
76	Heat loss and hypothermia in free diving: Estimation of survival time under water. American Journal of Physics, 2003, 71, 333-337.	0.3	7
77	Simple molecular model for the binding of antibiotic molecules to bacterial ion channels. Journal of Chemical Physics, 2003, 119, 8097-8102.	1.2	10
78	Comment on â€œRole of the centrifugal force in vehicle roll,â€•by Rod Cross [Am. J. Phys. 67 (5), 447â€“448 (1998)]. American Journal of Physics, 2002, 70, 556-557.	0.3	0
79	Donnan Equilibrium of Ionic Drugs in pH-Dependent Fixed Charge Membranes: Theoretical Modeling. Journal of Colloid and Interface Science, 2002, 253, 171-179.	5.0	25
80	Conductive and Capacitive Properties of the Bipolar Membrane Junction Studied by AC Impedance Spectroscopyâ€. Journal of Physical Chemistry B, 2001, 105, 11669-11677.	1.2	32
81	Modeling of Amino Acid Electrodiffusion through Fixed Charge Membranes. Journal of Colloid and Interface Science, 2001, 242, 164-173.	5.0	9
82	The role of the salt electrolyte on the electrical conductive properties of a polymeric bipolar membrane. Journal of Electroanalytical Chemistry, 2001, 513, 36-44.	1.9	9
83	Effects of water dielectric saturation on the spaceâ€“charge junction of a fixed-charge bipolar membrane. Chemical Physics Letters, 2000, 326, 87-92.	1.2	24
84	pH and supporting electrolyte concentration effects on the passive transport of cationic and anionic drugs through fixed charge membranes. Journal of Membrane Science, 1999, 161, 143-155.	4.1	22
85	Electric field-assisted proton transfer and water dissociation at the junction of a fixed-charge bipolar membrane. Chemical Physics Letters, 1998, 294, 406-412.	1.2	112
86	AC impedance spectra of bipolar membranes: an experimental study. Journal of Membrane Science, 1998, 150, 43-56.	4.1	27
87	Model calculations of ion transport against its concentration gradient when the driving force is a pH difference across a charged membrane. Journal of Membrane Science, 1997, 135, 135-144.	4.1	20
88	Effects of pH on ion transport in weak amphoteric membranes. Journal of Electroanalytical Chemistry, 1997, 436, 119-125.	1.9	24