David S Cafiso

List of Publications by Year
in descending order

103 papers	6,090 citations	66343 42 h-index	76900 74 g-index
149 all docs	149 docs citations	149 times ranked	5272 citing authors

#	Article	IF	Citations
1	Identifying conformational changes with site-directed spin labeling. Nature Structural Biology, 2000, 7, 735-739.	9.7	737
2	Membrane structure and fusion-triggering conformational change of the fusion domain from influenza hemagglutinin. Nature Structural Biology, 2001, 8, 715-720.	9.7	406
3	Recent advances and applications of site-directed spin labeling. Current Opinion in Structural Biology, 2006, 16, 644-653.	5.7	293
4	Electrostatic Sequestration of PIP2 on Phospholipid Membranes by Basic/Aromatic Regions of Proteins. Biophysical Journal, 2004, 86, 2188-2207.	0.5	285
5	NMR Solution Structure of the Integral Membrane Enzyme DsbB: Functional Insights into DsbB-Catalyzed Disulfide Bond Formation. Molecular Cell, 2008, 31, 896-908.	9.7	171
6	The Role of Proline and Glycine in Determining the Backbone Flexibility of a Channel-Forming Peptide. Biophysical Journal, 1999, 76, 1367-1376.	0.5	124
7	Position of Synaptotagmin I at the Membrane Interface:Â Cooperative Interactions of Tandem C2 Domainsâ€. Biochemistry, 2006, 45, 9668-9674.	2.5	114
8	Membrane Orientation and Position of the C2 Domain from cPLA2 by Site-Directed Spin Labelingâ€. Biochemistry, 2002, 41, 6282-6292.	2.5	112
9	Membrane-Bound Orientation and Position of the Synaptotagmin I C2A Domain by Site-Directed Spin Labelingâ€. Biochemistry, 2003, 42, 96-105.	2.5	108
10	Synaptotagmin-1 binds to PIP2-containing membrane but not to SNAREs at physiological ionic strength. Nature Structural and Molecular Biology, 2015, 22, 815-823.	8.2	107
11	Dynamic structure of lipid-bound synaptobrevin suggests a nucleation-propagation mechanism for trans-SNARE complex formation. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 20306-20311.	7.1	102
12	Solution structure of the ESCRT-I complex by small-angle X-ray scattering, EPR, and FRET spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 9437-9442.	7.1	102
13	Substrate-induced exposure of an energy-coupling motif of a membrane transporter. Nature Structural Biology, 2000, 7, 205-209.	9.7	97
14	PtdInsP2 and PtdSer cooperate to trap synaptotagmin-1 to the plasma membrane in the presence of calcium. ELife, 2016, 5, .	6.0	93
15	Distance Measurement on an Endogenous Membrane Transporter in E. coli Cells and Native Membranes Using EPR Spectroscopy. Angewandte Chemie - International Edition, 2015, 54, 6196-6199.	13.8	89
16	Solution Structure of the ESCRT-I and -II Supercomplex: Implications for Membrane Budding and Scission. Structure, 2012, 20, 874-886.	3.3	85
17	Myristoylated Alanine-rich C Kinase Substrate (MARCKS) Sequesters Spin-labeled Phosphatidylinositol 4,5-Bisphosphate in Lipid Bilayers. Journal of Biological Chemistry, 2002, 277, 14068-14076.	3.4	83
18	Distribution of General Anesthetics in Phospholipid Bilayers Determined Using 2H NMR and 1H-1H NOE Spectroscopy. Biochemistry, 1995, 34, 6533-6539.	2.5	80

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19	Kinetics of Interaction of the Myristoylated Alanine-rich C Kinase Substrate, Membranes, and Calmodulin. Journal of Biological Chemistry, 1997, 272, 27167-27177.	3.4	78
20	Ligand Induced Conformational Changes of a Membrane Transporter in E. coli Cells Observed with DEER/PELDOR. Journal of the American Chemical Society, 2016, 138, 1844-1847.	13.7	75
21	The Structure of the Coiled-Coil Domain of Ndel1 and the Basis of Its Interaction with Lis1, the Causal Protein of Miller-Dieker Lissencephaly. Structure, 2007, 15, 1467-1481.	3.3	74
22	Continuum Solvent Model Calculations of Alamethicin-Membrane Interactions: Thermodynamic Aspects. Biophysical Journal, 2000, 78, 571-583.	0.5	73
23	Membrane-Bound Orientation and Position of the Synaptotagmin C2B Domain Determined by Site-Directed Spin Labelingâ€. Biochemistry, 2005, 44, 18-28.	2.5	73
24	The Calcium-Dependent and Calcium-Independent Membrane Binding of Synaptotagmin 1: Two Modes of C2B Binding. Journal of Molecular Biology, 2009, 387, 284-294.	4.2	69
25	Interactions Controlling the Membrane Binding of Basic Protein Domains:Â Phenylalanine and the Attachment of the Myristoylated Alanine-Rich C-Kinase Substrate Protein to Interfacesâ€. Biochemistry, 1999, 38, 12527-12536.	2.5	66
26	Membrane Structures of the Hemifusion-Inducing Fusion Peptide Mutant G1S and theFusion-Blocking Mutant G1V of Influenza Virus HemagglutininSuggest a Mechanism for Pore Opening in MembraneFusion. Journal of Virology, 2005, 79, 12065-12076.	3.4	66
27	Substrate-Dependent Unfolding of the Energy Coupling Motif of a Membrane Transport Protein Determined by Double Electron-Electron Resonanceâ€. Biochemistry, 2006, 45, 10847-10854.	2.5	66
28	Identifying and Quantitating Conformational Exchange in Membrane Proteins Using Site-Directed Spin Labeling. Accounts of Chemical Research, 2014, 47, 3102-3109.	15.6	64
29	Substrate-Induced Conformational Changes of the Perplasmic N-Terminus of an Outer-Membrane Transporter by Site-Directed Spin Labelingâ€. Biochemistry, 2003, 42, 1391-1400.	2.5	63
30	Location and Dynamics of Basic Peptides at the Membrane Interface: Electron Paramagnetic Resonance Spectroscopy of Tetramethyl-Piperidine-N-Oxyl-4-Amino-4-Carboxylic Acid-Labeled Peptides. Biophysical Journal, 2001, 81, 2241-2250.	0.5	62
31	Solution and Membrane-Bound Conformations of the Tandem C2A and C2B Domains of Synaptotagmin 1: Evidence for Bilayer Bridging. Journal of Molecular Biology, 2009, 390, 913-923.	4.2	60
32	Elucidation of cross-relaxation pathways in phospholipid vesicles utilizing two-dimensional proton NMR spectroscopy. Journal of the American Chemical Society, 1985, 107, 1530-1537.	13.7	56
33	Structure of the Ebola virus envelope protein MPER/TM domain and its interaction with the fusion loop explains their fusion activity. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E7987-E7996.	7.1	54
34	Structure and Dynamics of the Î²-Barrel of the Membrane Transporter BtuB by Site-Directed Spin Labelingâ€. Biochemistry, 2002, 41, 11543-11551.	2.5	53
35	Perturbation of a Very Late Step of Regulated Exocytosis by a Secretory Carrier Membrane Protein (SCAMP2)-derived Peptide. Journal of Biological Chemistry, 2002, 277, 35357-35363.	3.4	52
36	Phosphatidylinositol 4,5-Bisphosphate Alters Synaptotagmin 1 Membrane Docking and Drives Opposing Bilayers Closer Together. Biochemistry, 2011, 50, 2633-2641.	2.5	51

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37	Synaptotagmin 1 Modulates Lipid Acyl Chain Order in Lipid Bilayers by Demixing Phosphatidylserine. Journal of Biological Chemistry, 2011, 286, 25291-25300.	3.4	49
38	The Secretory Carrier Membrane Protein Family: Structure and Membrane Topology. Molecular Biology of the Cell, 2000, 11, 2933-2947.	2.1	48
39	Spectroscopic Evidence that Osmolytes Used in Crystallization Buffers Inhibit a Conformation Change in a Membrane Proteinâ€. Biochemistry, 2003, 42, 13106-13112.	2.5	48
40	[16] Measuring electrostatic potentials adjacent to membranes. Methods in Enzymology, 1989, 171, 342-364.	1.0	47
41	Structural and dynamic studies of the transcription factor ERG reveal DNA binding is allosterically autoinhibited. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 13374-13379.	7.1	47
42	Location of the Myristoylated Alanine-Rich C-Kinase Substrate (MARCKS) Effector Domain in Negatively Charged Phospholipid Bicelles. Biophysical Journal, 2003, 85, 2442-2448.	0.5	44
43	Conformational Exchange in a Membrane Transport Protein Is Altered inÂProtein Crystals. Biophysical Journal, 2010, 99, 1604-1610.	0.5	44
44	Monomeric TonB and the Ton Box Are Required for the Formation of a High-Affinity Transporterâ€“TonB Complex. Biochemistry, 2013, 52, 2638-2648.	2.5	44
45	In situ observation of conformational dynamics and protein ligandâ€“substrate interactions in outer-membrane proteins with DEER/PELDOR spectroscopy. Nature Protocols, 2019, 14, 2344-2369.	12.0	43
46	Ebola virus glycoprotein interacts with cholesterol to enhance membrane fusion and cell entry. Nature Structural and Molecular Biology, 2021, 28, 181-189.	8.2	43
47	Anesthetics Reduce the Magnitude of the Membrane Dipole Potential. Measurements in Lipid Vesicles Using Voltage-Sensitive Spin Probes. Biochemistry, 1995, 34, 5536-5543.	2.5	42
48	Differential substrate-induced signaling through the TonB-dependent transporter BtuB. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 10688-10693.	7.1	41
49	Solutes Alter the Conformation of the Ligand Binding Loops in Outer Membrane Transporters. Biochemistry, 2008, 47, 670-679.	2.5	37
50	Dipole potentials and spontaneous curvature: membrane properties that could mediate anesthesia. Toxicology Letters, 1998, 100-101, 431-439.	0.8	36
51	Substrate-dependent transmembrane signaling in TonB-dependent transporters is not conserved. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 11975-11980.	7.1	36
52	Membrane Mimetic Environments Alter the Conformation of the Outer Membrane Protein BtuB. Journal of the American Chemical Society, 2003, 125, 13932-13933.	13.7	35
53	Distribution of Phospholipids and Triglycerides in Multivesicular Lipid Particles. Drug Delivery, 1999, 6, 97-106.	5.7	34
54	Design, Synthesis, and Evaluation of Analogues of 3,3,3-Trifluoro-2-Hydroxy-2-Phenyl-Propionamide as Orally Available General Anesthetics. Journal of Medicinal Chemistry, 2003, 46, 2494-2501.	6.4	34

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55	Synaptotagmin 1 and SNAREs Form a Complex That Is Structurally Heterogeneous. Journal of Molecular Biology, 2011, 405, 696-706.	4.2	34
56	Localization of hydrophobic ions in phospholipid bilayers using proton nuclear Overhauser effect spectroscopy. Biochemistry, 1987, 26, 4584-4592.	2.5	33
57	Secretory Carrier Membrane Protein SCAMP2 and Phosphatidylinositol 4,5-Bisphosphate Interactions in the Regulation of Dense Core Vesicle Exocytosis. Biochemistry, 2007, 46, 10909-10920.	2.5	33
58	Osmolytes modulate conformational exchange in solventâ€exposed regions of membrane proteins. Protein Science, 2010, 19, 269-278.	7.6	33
59	Molecular Origin of Electron Paramagnetic Resonance Line Shapes on Î²-Barrel Membrane Proteins: The Local Solvation Environment Modulates Spin-Label Configuration. Biochemistry, 2011, 50, 8792-8803.	2.5	33
60	Competing ligands stabilize alternate conformations of the energy coupling motif of a TonB-dependent outer membrane transporter. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 11382-11387.	7.1	32
61	A molecular mechanism for calcium-mediated synaptotagmin-triggered exocytosis. Nature Structural and Molecular Biology, 2018, 25, 911-917.	8.2	32
62	Complexin Binding to Membranes and Acceptor t-SNAREs Explains Its Clamping Effect on Fusion. Biophysical Journal, 2017, 113, 1235-1250.	0.5	31
63	Munc18-1 and the Syntaxin-1ÂN Terminus Regulate Open-Closed States in a t-SNARE Complex. Structure, 2016, 24, 392-400.	3.3	29
64	TRIM5Î± SPRY/coiled-coil interactions optimize avid retroviral capsid recognition. PLoS Pathogens, 2017, 13, e1006686.	4.7	29
65	A Dynamic Proteinâ€“Protein Coupling between the TonB-Dependent Transporter FhuA and TonB. Biochemistry, 2018, 57, 1045-1053.	2.5	29
66	Phosphatidylinositol 4,5 Bisphosphate Controls the cis and trans Interactions of Synaptotagmin 1. Biophysical Journal, 2019, 117, 247-257.	0.5	28
67	Transport-Defective Mutations Alter the Conformation of the Energy-Coupling Motif of an Outer Membrane Transporter. Biochemistry, 2001, 40, 13964-13971.	2.5	27
68	Membrane Position of a Basic Aromatic Peptide that Sequesters Phosphatidylinositol 4,5 Bisphosphate Determined by Site-Directed Spin Labeling and High-Resolution NMR. Biophysical Journal, 2004, 87, 3221-3233.	0.5	27
69	Solutes Modify a Conformational Transition in a Membrane Transport Protein. Biophysical Journal, 2006, 90, 2922-2929.	0.5	27
70	Allosteric Control of Syntaxin 1a by Munc18-1: Characterization of the Open and Closed Conformations of Syntaxin. Biophysical Journal, 2013, 104, 1585-1594.	0.5	27
71	Lipid bilayers: membrane-protein electrostatic interactions. Current Opinion in Structural Biology, 1991, 1, 185-190.	5.7	25
72	Distance Estimates from Paramagnetic Enhancements of Nuclear Relaxation in Linear and Flexible Model Peptides. Biophysical Journal, 1999, 77, 1086-1092.	0.5	25

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73	The Juxtamembrane Linker of Full-length Synaptotagmin 1 Controls Oligomerization and Calcium-dependent Membrane Binding. Journal of Biological Chemistry, 2014, 289, 22161-22171.	3.4	25
74	Efficient water oxidation kinetics and enhanced electron transport in Li-doped TiO₂ nanotube photoanodes. Journal of Materials Chemistry A, 2016, 4, 19070-19077.	10.3	25
75	Defining Proteinâ˜Protein Interactions Using Site-Directed Spin-Labeling:Â The Binding of Protein Kinase C Substrates to Calmodulinâ€. Biochemistry, 1996, 35, 13272-13276.	2.5	24
76	Ligand-Induced Structural Changes in the Escherichia coli Ferric Citrate Transporter Reveal Modes for Regulating Proteinâ€“Protein Interactions. Journal of Molecular Biology, 2012, 423, 818-830.	4.2	24
77	The SNARE Motif of Synaptobrevin Exhibits an Aqueousâ€“Interfacial Partitioning That Is Modulated by Membrane Curvature. Biochemistry, 2014, 53, 1485-1494.	2.5	24
78	Solution and Membrane Bound Structure of a Peptide Derived from the Protein Kinase C Substrate Domain of Neuromodulinâ€. Biochemistry, 1996, 35, 11104-11112.	2.5	23
79	Intra and Inter-Molecular Interactions Dictate the Aggregation State of Irinotecan Co-Encapsulated with Floxuridine Inside Liposomes. Pharmaceutical Research, 2008, 25, 1702-1713.	3.5	22
80	Conformation and Membrane Position of the Region Linking the Two C2 Domains in Synaptotagmin 1 by Site-Directed Spin Labeling. Biochemistry, 2008, 47, 12380-12388.	2.5	22
81	Conserved arginine residues in synaptotagmin 1 regulate fusion pore expansion through membrane contact. Nature Communications, 2021, 12, 761.	12.8	21
82	Non-Native Metal Ion Reveals the Role of Electrostatics in Synaptotagmin 1â€“Membrane Interactions. Biochemistry, 2017, 56, 3283-3295.	2.5	20
83	Structural intermediates observed only in intact Escherichia coli indicate a mechanism for TonB-dependent transport. ELife, 2021, 10, .	6.0	18
84	Evidence for the Supramolecular Organization of a Bacterial Outer-Membrane Protein from In Vivo Pulse Electron Paramagnetic Resonance Spectroscopy. Journal of the American Chemical Society, 2020, 142, 10715-10722.	13.7	17
85	INTERFACIAL CHARGE SEPARATION IN PHOTORECEPTOR MEMBRANES. Photochemistry and Photobiology, 1980, 32, 461-468.	2.5	16
86	Membrane Thickness Varies Around the Circumference of the Transmembrane Protein BtuB. Biophysical Journal, 2011, 100, 1280-1287.	0.5	16
87	The N-Terminal Domain of a TonB-Dependent Transporter Undergoes a Reversible Stepwise Denaturation. Biochemistry, 2012, 51, 3642-3650.	2.5	16
88	Allosteric Signaling Is Bidirectional in an Outer-Membrane Transport Protein. Biophysical Journal, 2016, 111, 1908-1918.	0.5	16
89	Molecular Basis for Substrate-dependent Transmembrane Signaling in an Outer-membrane Transporter. Journal of Molecular Biology, 2007, 370, 807-811.	4.2	14
90	Partitioning of Synaptotagmin I C2 Domains between Liquid-Ordered and Liquid-Disordered Inner Leaflet Lipid Phases. Biochemistry, 2011, 50, 2478-2485.	2.5	14

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91	Native Cell Environment Constrains Loop Structure in the Escherichia coli Cobalamin Transporter BtuB. Biophysical Journal, 2020, 119, 1550-1557.	0.5	11
92	Potential-dependent phase partitioning of fluorescent hydrophobic ions in phospholipid vesicles. Journal of Membrane Biology, 1984, 82, 241-247.	2.1	9
93	Disulfide Chaperone Knockouts Enable InÂVivo Double Spin Labeling of an Outer Membrane Transporter. Biophysical Journal, 2019, 117, 1476-1484.	0.5	9
94	Partial Metal Ion Saturation of C2 Domains Primes Synaptotagmin 1-Membrane Interactions. Biophysical Journal, 2020, 118, 1409-1423.	0.5	9
95	Hybrid Refinement of Heterogeneous Conformational Ensembles Using Spectroscopic Data. Journal of Physical Chemistry Letters, 2019, 10, 3410-3414.	4.6	8
96	Lipid and Membrane Mimetic Environments Modulate Spin Label Side Chain Configuration in the Outer Membrane Protein A. Journal of Physical Chemistry B, 2011, 115, 14822-14830.	2.6	6
97	Closure of the Cytoplasmic Gate Formed by TM5 and TM11 during Transport in the Oxalate/Formate Exchanger fromOxalobacter formigenes. Biochemistry, 2014, 53, 7735-7744.	2.5	6
98	Exploration of the TRIM Fold of MuRF1 Using EPR Reveals a Canonical Antiparallel Structure and Extended COS-Box. Journal of Molecular Biology, 2019, 431, 2900-2909.	4.2	5
99	Reconstitution of an electrically active conformational transition in rhodopsin-containing membranes. Biochimica Et Biophysica Acta - Biomembranes, 1986, 854, 151-155.	2.6	3
100	Spin-diffusion couples proton relaxation rates for proteins in exchange with a membrane interface. Journal of Magnetic Resonance, 2008, 194, 283-288.	2.1	3
101	Structure and Interactions of C2 Domains at Membrane Surfaces. , 2006, , 403-422.		2
102	Taking the Pulse of Protein Interactions by EPR Spectroscopy. Biophysical Journal, 2012, 103, 2047-2048.	0.5	2
103	Choice of reconstitution protocol modulates the aggregation state of fullâ€length membraneâ€reconstituted synaptotagminâ€1. Protein Science, 2018, 27, 1008-1012.	7.6	2