Anthony Watts

List of Publications by Year
in descending order

110 papers	5,138 citations	81900 39 h-index	95266 68 g-index
117 all docs	117 docs citations	117 times ranked	5780 citing authors

#	Article	IF	Citations
1	Microscale thermophoresis quantifies biomolecular interactions under previously challenging conditions. Methods, 2013, 59, 301-315.	3.8	501
2	Interfacial Anchor Properties of Tryptophan Residues in Transmembrane Peptides Can Dominate over Hydrophobic Matching Effects in Peptideâ˜Lipid Interactionsâ€. Biochemistry, 2003, 42, 5341-5348.	2.5	251
3	Uncovering the intimate relationship between lipids, cholesterol and GPCR activation. Current Opinion in Structural Biology, 2011, 21, 802-807.	5.7	219
4	Control of the structure and fluidity of phosphatidylglycerol bilayers by pH titration. Biochimica Et Biophysica Acta - Biomembranes, 1978, 510, 63-74.	2.6	211
5	Rhodopsin-lipid associations in bovine rod outer segment membranes. Identification of immobilized lipid by spin-labels. Biochemistry, 1979, 18, 5006-5013.	2.5	170
6	Detergent-Free Incorporation of a Seven-Transmembrane Receptor Protein into Nanosized Bilayer Lipodisq Particles for Functional and Biophysical Studies. Nano Letters, 2012, 12, 4687-4692.	9.1	170
7	Detergentâ€Free Formation and Physicochemical Characterization of Nanosized Lipidâ€"Polymer Complexes: Lipodisq. Angewandte Chemie - International Edition, 2012, 51, 4653-4657.	13.8	166
8	Observations of light-induced structural changes of retinal within rhodopsin. Nature, 2000, 405, 810-813.	27.8	134
9	A detergent-free strategy for the reconstitution of active enzyme complexes from native biological membranes into nanoscale discs. BMC Biotechnology, 2013, 13, 41.	3.3	118
10	Solid-state NMR in drug design and discovery for membrane-embedded targets. Nature Reviews Drug Discovery, 2005, 4, 555-568.	46.4	113
11	A review of oxygen-17 solid-state NMR of organic materialsâ€"towards biological applications. Solid State Nuclear Magnetic Resonance, 2004, 26, 215-235.	2.3	99
12	DNA-Templated Protein Arrays for Single-Molecule Imaging. Nano Letters, 2011, 11, 657-660.	9.1	99
13	Gating Topology of the Proton-Coupled Oligopeptide Symporters. Structure, 2015, 23, 290-301.	3.3	98
14	Dynamic tuneable G protein-coupled receptor monomer-dimer populations. Nature Communications, 2018, 9, 1710.	12.8	92
15	Bilayer-Mediated Clustering and Functional Interaction of MscL Channels. Biophysical Journal, 2011, 100, 1252-1260.	0.5	87
16	Solid-state NMR approaches for studying the interaction of peptides and proteins with membranes. BBA - Biomembranes, 1998, 1376, 297-318.	8.0	81
17	Spin-label studies of lipid-protein interactions in sodium-potassium ATPase membranes from rectal glands of Squalus acanthias. Biochemistry, 1985, 24, 1386-1393.	2.5	78
18	The essential role of specific Halobacterium halobium polar lipids in 2D-array formation of bacteriorhodopsin. Biochimica Et Biophysica Acta - Biomembranes, 1992, 1108, 21-30.	2.6	71

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19	Effects of the Eukaryotic Pore-Forming Cytolysin Equinatoxin II on Lipid Membranes and the Role of Sphingomyelin. Biophysical Journal, 2003, 84, 2382-2392.	0.5	67
20	Constitutive Dimerization of the G-Protein Coupled Receptor, Neurotensin Receptor 1, Reconstituted into Phospholipid Bilayers. Biophysical Journal, 2009, 96, 964-973.	0.5	67
21	Re-orientation of retinal in the M-photointermediate of bacteriorhodopsin. Nature Structural and Molecular Biology, 1995, 2, 190-192.	8.2	64
22	NMR of drugs and ligands bound to membrane receptors. Current Opinion in Biotechnology, 1999, 10, 48-53.	6.6	64
23	The role of cholesterol on the activity and stability of neurotensin receptor 1. Biochimica Et Biophysica Acta - Biomembranes, 2012, 1818, 2228-2233.	2.6	62
24	Structural and orientational constraints of bacteriorhodopsin in purple membranes determined by oriented-sample solid-state NMR spectroscopy. Journal of Structural Biology, 2005, 149, 7-16.	2.8	58
25	Regulation of G protein-coupled receptors by palmitoylation and cholesterol. BMC Biology, 2012, 10, 27.	3.8	58
26	Effect of cholesterol on rhodopsin stability in disk membranes. BBA - Proteins and Proteomics, 1996, 1297, 77-82.	2.1	56
27	Differential Stiffness and Lipid Mobility in the Leaflets of Purple Membranes. Biophysical Journal, 2006, 90, 2075-2085.	0.5	56
28	Interactions between phospholipid head groups at membrane interfaces: a deuterium and phosphorus NMR and spin-label ESR study. Biochemistry, 1982, 21, 6446-6452.	2.5	55
29	Photoreceptor rhodopsin: structural and conformational study of its chromophore 11-cis retinal in oriented membranes by deuterium solid state NMR. FEBS Letters, 1998, 422, 201-204.	2.8	55
30	Helical membrane protein conformations and their environment. European Biophysics Journal, 2013, 42, 731-755.	2.2	55
31	Electrostatic peptideâ€"lipid interactions of amyloid-Î² peptide and pentalysine with membrane surfaces monitored by 31P MAS NMR. Physical Chemistry Chemical Physics, 2001, 3, 2904-2910.	2.8	52
32	The Ring of the Rhodopsin Chromophore in a Hydrophobic Activation Switch Within the Binding Pocket. Journal of Molecular Biology, 2004, 343, 719-730.	4.2	50
33	Recent contributions from solid-state NMR to the understanding of membrane protein structure and function. Current Opinion in Chemical Biology, 2011, 15, 690-695.	6.1	49
34	Membrane protein structure: the contribution and potential of novel solid state NMR approaches (Review). Molecular Membrane Biology, 1995, 12, 233-246.	2.0	47
35	Lipid modulation of early G protein-coupled receptor signalling events. Biochimica Et Biophysica Acta - Biomembranes, 2015, 1848, 2889-2897.	2.6	47
36	Folding of Apocytochromecin Lipid Micelles:Â Formation of Î±-Helix Precedes Membrane Insertionâ€. Biochemistry, 1999, 38, 9758-9767.	2.5	45

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37	Weak interaction of spectrin with phosphatidylcholine-phosphatidylserine multilayers: A2H and31P NMR study. FEBS Letters, 1989, 244, 217-222.	2.8	44
38	The effect of temperature and protein content on the dispersive properties of bacteriorhodopsin from H. halobium in reconstituted DMPC complexes free of endogenous purple membrane lipids: A freeze-fracture electron microscopy study. Biochimica Et Biophysica Acta - Biomembranes, 1989, 980, 117-126.	2.6	43
39	Solution- and solid-state NMR studies of GPCRs and their ligands. Biochimica Et Biophysica Acta - Biomembranes, 2011, 1808, 1462-1475.	2.6	39
40	From polymer chemistry to structural biology: The development of SMA and related amphipathic polymers for membrane protein extraction and solubilisation. Chemistry and Physics of Lipids, 2019, 221, 167-175.	3.2	39
41	The conformation of an inhibitor bound to the gastric proton pump. FEBS Letters, 1997, 410, 269-274.	2.8	38
42	Direct analysis of a GPCR-agonist interaction by surface plasmon resonance. European Biophysics Journal, 2006, 35, 709-712.	2.2	37
43	G-protein-coupled receptor structure, ligand binding and activation as studied by solid-state NMR spectroscopy. Biochemical Journal, 2013, 450, 443-457.	3.7	37
44	Engineering monolayer poration for rapid exfoliation of microbial membranes. Chemical Science, 2017, 8, 1105-1115.	7.4	35
45	The Conformation of Bacteriorhodopsin Loops in Purple Membranes Resolved by Solidâ€State MASâ€…NMR Spectroscopy. Angewandte Chemie - International Edition, 2011, 50, 8432-8435.	13.8	34
46	Detergent-free extraction of a functional low-expressing GPCR from a human cell line. Biochimica Et Biophysica Acta - Biomembranes, 2020, 1862, 183152.	2.6	34
47	A Model of Reversible Inhibitors in the Gastric H+/K+-ATPase Binding Site Determined by Rotational Echo Double Resonance NMR. Journal of Biological Chemistry, 2001, 276, 43197-43204.	3.4	33
48	General Model for Lipid-Mediated Two-Dimensional Array Formation of Membrane Proteins: Application to Bacteriorhodopsin. Biophysical Journal, 1998, 75, 1180-1188.	0.5	31
49	Identifying Anisotropic Constraints in Multiply Labeled Bacteriorhodopsin by 15N MAOSS NMR: A General Approach to Structural Studies of Membrane Proteins. Biophysical Journal, 2004, 86, 1610-1617.	0.5	31
50	Enhanced Photocurrent in Engineered Bacteriorhodopsin Monolayer. Journal of Physical Chemistry B, 2012, 116, 683-689.	2.6	29
51	Detergent-free Lipodisq Nanoparticles Facilitate High-Resolution Mass Spectrometry of Folded Integral Membrane Proteins. Nano Letters, 2021, 21, 2824-2831.	9.1	29
52	Lipid-Induced Modulation of the Protein Packing in Two-Dimensional Crystals of Bacteriorhodopsin. Journal of Structural Biology, 1993, 110, 196-204.	2.8	28
53	Structural Information on a Membrane Transport Protein from Nuclear Magnetic Resonance Spectroscopy Using Sequence-Selective Nitroxide Labelingâ€. Biochemistry, 1999, 38, 9634-9639.	2.5	28
54	Proteinâ€"lipid interactions: do the spectroscopists now agree?. Nature, 1981, 294, 512-513.	27.8	27

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55	Improved yield of a ligand-binding GPCR expressed in E. coli for structural studies. Protein Expression and Purification, 2009, 64, 32-38.	1.3	27
56	Reconstitution of Membrane Proteins. Methods in Enzymology, 2015, 556, 405-424.	1.0	27
57	Lipid nanoparticle technologies for the study of G protein-coupled receptors in lipid environments. Biophysical Reviews, 2020, 12, 1287-1302.	3.2	27
58	Dynamic Nuclear Polarization enhanced NMR at 187 GHz/284 MHz using an Extended Interaction Klystron amplifier. Journal of Magnetic Resonance, 2016, 265, 77-82.	2.1	25
59	Molecular Scale Conductance Photoswitching in Engineered Bacteriorhodopsin. Nano Letters, 2012, 12, 899-903.	9.1	24
60	Tuneable poration: host defense peptides as sequence probes for antimicrobial mechanisms. Scientific Reports, 2018, 8, 14926.	3.3	24
61	Conformational dynamics of a G proteinâ€"coupled receptor helix 8 in lipid membranes. Science Advances, 2020, 6, eaav8207.	10.3	24
62	Membrane protein structure determination by solid state NMR. Natural Product Reports, 1999, 16, 419-423.	10.3	22
63	Structures of the archaerhodopsin-3 transporter reveal that disordering of internal water networks underpins receptor sensitization. Nature Communications, 2021, 12, 629.	12.8	22
64	Spin label and 2H-NMR studies on the interaction of melanotropic peptides with lipid bilayers. European Biophysics Journal, 1996, 24, 251-9.	2.2	21
65	31P-CP-MAS NMR studies on TPP+bound to the ion-coupled multidrug transport protein EmrE. FEBS Letters, 2000, 480, 127-131.	2.8	21
66	Functionally Relevant Coupled Dynamic Profile of Bacteriorhodopsin and Lipids in Purple Membranesâ€. Biochemistry, 2006, 45, 4304-4313.	2.5	21
67	Membrane Protein Structure Determination Using Solid-State NMR. , 2004, 278, 403-474.		20
68	Protein-lipid interactions at membrane surfaces: a deuterium and phosphorus nuclear magnetic resonance study of the interaction between bovine rhodopsin and the bilayer head groups of dimyristoylphosphatidylcholine. Biochemistry, 1986, 25, 4818-4825.	2.5	19
69	Applications of REDOR for Distance Measurements in Biological Solids. Annual Reports on NMR Spectroscopy, 2006, 60, 191-228.	1.5	19
70	Advances towards resonance assignments for uniformlyâ€"13C, 15N enriched bacteriorhodopsin at 18.8ÂT in purple membranes. Journal of Biomolecular NMR, 2008, 41, 1-4.	2.8	19
71	An Electron-Spin-Resonance Spin-Label Study of the Interaction of Purified Mojave Toxin with Synaptosomal Membranes from Rat Brain. FEBS Journal, 1983, 131, 559-565.	0.2	18
72	Direct studies of ligand-receptor interactions and ion channel blocking (Review). Molecular Membrane Biology, 2002, 19, 267-275.	2.0	17

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73	Solidâ€state NMR and simulation studies of equinatoxin II Nâ€terminus interaction with lipid bilayers. Proteins: Structure, Function and Bioinformatics, 2010, 78, 858-872.	2.6	17
74	Effect of the C-terminal proline repeats on ordered packing of squid rhodopsin and its mobility in membranes. FEBS Letters, 1995, 359, 45-49.	2.8	16
75	Ultracentrifugation studies on the transmembrane domain of the human erythrocyte anion transporter Band 3 in the detergent C 12 E 8. European Biophysics Journal, 1998, 27, 651-655.	2.2	16
76	13C- and 1H-detection under fast MAS for the study of poorly available proteins: application to sub-milligram quantities of a 7 trans-membrane protein. Journal of Biomolecular NMR, 2015, 62, 17-23.	2.8	16
77	Solid-State Nuclear Magnetic Resonance Spectroscopy for Membrane Protein Structure Determination. Methods in Molecular Biology, 2015, 1261, 331-347.	0.9	16
78	Kinetics of the early events of GPCR signalling. FEBS Letters, 2014, 588, 4701-4707.	2.8	15
79	Interaction of lipids with the neurotensin receptor 1. Biochimica Et Biophysica Acta - Biomembranes, 2016, 1858, 1278-1287.	2.6	15
80	Structure and dynamics of lipid-associated states of apocytochrome c. FEBS Journal, 2000, 267, 1390-1396.	0.2	14
81	Contributions of fluorescence techniques to understanding G protein-coupled receptor dimerisation. Biophysical Reviews, 2012, 4, 291-298.	3.2	14
82	Lipid-Dependent GPCR Dimerization. Methods in Cell Biology, 2013, 117, 341-357.	1.1	14
83	Novel expression and characterization of a light driven proton pump archaerhodopsin 4 in a Halobacterium salinarum strain. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 390-398.	1.0	14
84	Lipodisqs for eukaryote lipidomics with retention of viability: Sensitivity and resistance to Leucobacter infection linked to C.elegans cuticle composition. Chemistry and Physics of Lipids, 2019, 222, 51-58.	3.2	14
85	The interaction of amino-deuteromethylated melittin with phospholipid membranes studied by deuterium NMR. FEBS Letters, 1987, 218, 173-177.	2.8	13
86	2H{19F} REDOR for distance measurements in biological solids using a double resonance spectrometer. Journal of Magnetic Resonance, 2004, 166, 1-10.	2.1	13
87	Detergent-free solubilisation & purification of a G protein coupled receptor using a polymethacrylate polymer. Biochimica Et Biophysica Acta - Biomembranes, 2021, 1863, 183441.	2.6	13
88	Engineered Bacteriorhodopsin: A Molecular Scale Potential Switch. Chemistry - A European Journal, 2012, 18, 5632-5636.	3.3	12
89	Folding of apocytochrome <i>c</i> induced by the interaction with negatively charged lipid micelles proceeds via a collapsed intermediate state. Protein Science, 1999, 8, 381-393.	7.6	11
90	Binding Properties of the Stilbene Disulfonate Sites on Human Erythrocyte AE1:Â Kinetic, Thermodynamic, and Solid State Deuterium NMR Analysesâ€. Biochemistry, 1999, 38, 11172-11179.	2.5	10

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91	Conformational flexibility of GRASPs and their constituent PDZ subdomains reveals structural basis of their promiscuous interactome. FEBS Journal, 2020, 287, 3255-3272.	4.7	10
92	Heterologous high yield expression and purification of neurotensin and its functional fragment in Escherichia coli. Protein Expression and Purification, 2010, 74, 65-68.	1.3	9
93	Functional roles of tyrosine 185 during the bacteriorhodopsin photocycle as revealed by in situ spectroscopic studies. Biochimica Et Biophysica Acta - Bioenergetics, 2018, 1859, 1006-1014.	1.0	9
94	Physicochemical Characterization, Toxicity and <i>In Vivo</i> Biodistribution Studies of a Discoidal, Lipid-Based Drug Delivery Vehicle: Lipodisq Nanoparticles Containing Doxorubicin. Journal of Biomedical Nanotechnology, 2020, 16, 419-431.	1.1	8
95	Enantioselective Syntheses of Î±-Fmoc-Pbf-[2-¹³C]-<scp>l</scp>-arginine and Fmoc-[1,3-¹³C₂]-<scp>l</scp>-proline and Incorporation into the Neurotensin Receptor 1 Ligand, NT_{8âˆ'13}. Journal of Organic Chemistry, 2009, 74, 8980-8987.	3.2	6
96	Mediation mechanism of tyrosine 185 on the retinal isomerization equilibrium and the proton release channel in the seven-transmembrane receptor bacteriorhodopsin. Biochimica Et Biophysica Acta - Bioenergetics, 2016, 1857, 1786-1795.	1.0	6
97	Nanodiscâ€Targeted STD NMR Spectroscopy Reveals Atomic Details of Ligand Binding to Lipid Environments. ChemBioChem, 2018, 19, 1022-1025.	2.6	5
98	In Situ Study of the Function of Bacterioruberin in the Dualâ€Chromophore Photoreceptor Archaerhodopsinâ€4. Angewandte Chemie - International Edition, 2018, 57, 8937-8941.	13.8	4
99	Exploring Conformational Transitions and Free-Energy Profiles of Proton-Coupled Oligopeptide Transporters. Journal of Chemical Theory and Computation, 2019, 15, 6433-6443.	5.3	4
100	High-resolution, non-crystallographic structural studies of large integral membrane proteins. Biochemical Society Transactions, 1994, 22, 801-805.	3.4	2
101	In Situ Study of the Function of Bacterioruberin in the Dualâ€Chromophore Photoreceptor Archaerhodopsinâ€4. Angewandte Chemie, 2018, 130, 9075-9079.	2.0	2
102	Two states of a light-sensitive membrane protein captured at room temperature using thin-film sample mounts. Acta Crystallographica Section D: Structural Biology, 2022, 78, 52-58.	2.3	2
103	In vivo observation of amyloid-like fibrils produced under stress. International Journal of Biological Macromolecules, 2022, 199, 42-50.	7.5	2
104	Function of Tyr185 in Stabilizing the Isomerization Equilibrium of the Retinal Chromophore in the Bacteriorhodopsin Ground State. Biophysical Journal, 2016, 110, 377a.	0.5	1
105	Translational Biophysics â€" 20th IUPAB Congress Session Commentary. Biophysical Reviews, 2021, 13, 875-877.	3.2	1
106	Dynamic Coupling of Tyrosine 185 with the Bacteriorhodopsin Photocycle, as Revealed by Chemical Shifts, Assisted AF-QM/MM Calculations and Molecular Dynamic Simulations. International Journal of Molecular Sciences, 2021, 22, 13587.	4.1	1
107	Magnetic-resonance studies of vertebrate rod outer segments. Biochemical Society Transactions, 1983, 11, 674-676.	3.4	0
108	Expression of isotopically labelled membrane transport proteins. Biochemical Society Transactions, 1999, 27, A150-A150.	3.4	0

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109	2P167 Probing the bound conformation of Acetylcholinesterase (AChE) inhibitor at the binding site(34.) Tj ETQq1 1 0.784314 rgBT /Ov 2006, 46, S337.	0.1	0
110	Chapter 13. Recent Developments in Biomolecular Solid-State NMR. RSC Biomolecular Sciences, 0, , 318-334.	0.4	0