Martin Caffrey

List of Publications by Year
in descending order

116 papers	13,602 citations	30070 54 h-index	22166 113 g-index
117 all docs	117 docs citations	117 times ranked	11228 citing authors

#	Article	IF	Citations
1	Undecaprenol kinase: Function, mechanism and substrate specificity of a potential antibiotic target. European Journal of Medicinal Chemistry, 2021, 210, 113062.	5.5	6
2	Structural basis of the membrane intramolecular transacylase reaction responsible for lyso-form lipoprotein synthesis. Nature Communications, 2021, 12, 4254.	12.8	6
3	9.8 MAG: A New Host Lipid for <i>In Meso</i> (Lipid Cubic Phase) Crystallization of Integral Membrane Proteins. Crystal Growth and Design, 2021, 21, 490-500.	3.0	4
4	Bacterial Lipoprotein Posttranslational Modifications. New Insights and Opportunities for Antibiotic and Vaccine Development. Frontiers in Microbiology, 2021, 12, 788445.	3.5	10
5	Structures of lipoprotein signal peptidase II from Staphylococcus aureus complexed with antibiotics globomycin and myxovirescin. Nature Communications, 2020, 11, 140.	12.8	29
6	X-ray Crystal Structures of the Influenza M2 Proton Channel Drug-Resistant V27A Mutant Bound to a Spiro-Adamantyl Amine Inhibitor Reveal the Mechanism of Adamantane Resistance. Biochemistry, 2020, 59, 627-634.	2.5	23
7	From plant to probe: semi-synthesis of labelled undecaprenol analogues allows rapid access to probes for antibiotic targets. Chemical Communications, 2020, 56, 8603-8606.	4.1	5
8	Effects of 2-monoacylglycerol on <i>in meso</i> crystallization and the crystal structures of integral membrane proteins. Crystal Growth and Design, 2020, 20, 5444-5454.	3.0	3
9	Structure and Functional Characterization of Membrane Integral Proteins in the Lipid Cubic Phase. Journal of Molecular Biology, 2020, 432, 5104-5123.	4.2	20
10	In Meso In Situ Serial X-Ray Crystallography (IMISX): A Protocol for Membrane Protein Structure Determination at the Swiss Light Source. Methods in Molecular Biology, 2020, 2127, 293-319.	0.9	3
11	<i>In meso</i> crystallogenesis. Compatibility of the lipid cubic phase with the synthetic digitonin analogue, glyco-diosgenin. Journal of Applied Crystallography, 2020, 53, 530-535.	4.5	9
12	3D-printed holders for<i>in meso in situ</i>fixed-target serial X-ray crystallography. Journal of Applied Crystallography, 2020, 53, 854-859.	4.5	7
13	Low-dose <i>in situ</i> prelocation of protein microcrystals by 2D X-ray phase-contrast imaging for serial crystallography. IUCrJ, 2020, 7, 1131-1141.	2.2	1
14	Crystal structure of undecaprenyl-pyrophosphate phosphatase and its role in peptidoglycan biosynthesis. Nature Communications, 2018, 9, 1078.	12.8	47
15	Crystal structure of the human 5-HT1B serotonin receptor bound to an inverse agonist. Cell Discovery, 2018, 4, 12.	6.7	63
16	Membrane (and Soluble) Protein Stability and Binding Measurements in the Lipid Cubic Phase Using Label-Free Differential Scanning Fluorimetry. Analytical Chemistry, 2018, 90, 12152-12160.	6.5	16
17	In situ serial crystallography for rapid de novo membrane protein structure determination. Communications Biology, 2018, 1, 124.	4.4	27
18	The Lipid Cubic Phase as a Medium for the Growth of Membrane Protein Microcrystals. , 2018, , 87-107.		0

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19	Crystal structure and biochemical characterization of the transmembrane PAP2 type phosphatidylglycerol phosphate phosphatase from Bacillus subtilis. Cellular and Molecular Life Sciences, 2017, 74, 2319-2332.	5.4	20
20	Editorial overview: Membranes. Current Opinion in Structural Biology, 2017, 45, vii-ix.	5.7	0
21	The cubicon method for concentrating membrane proteins in the cubic mesophase. Nature Protocols, 2017, 12, 1745-1762.	12.0	31
22	Proton movement and coupling in the POT family of peptide transporters. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 13182-13187.	7.1	81
23	Structural insights into the mechanism of the membrane integral N-acyltransferase step in bacterial lipoprotein synthesis. Nature Communications, 2017, 8, 15952.	12.8	52
24	Fast two-dimensional grid and transmission X-ray microscopy scanning methods for visualizing and characterizing protein crystals. Journal of Applied Crystallography, 2016, 49, 944-952.	4.5	38
25	Cell-Free Production of Membrane Proteins in Escherichia coli Lysates for Functional and Structural Studies. Methods in Molecular Biology, 2016, 1432, 1-21.	0.9	17
26	Data-collection strategy for challenging native SAD phasing. Acta Crystallographica Section D: Structural Biology, 2016, 72, 421-429.	2.3	42
27	Structure and Function of Bacterial Cytochrome c Oxidases. Advances in Photosynthesis and Respiration, 2016, , 307-329.	1.0	2
28	<i>In meso in situ</i>serial X-ray crystallography of soluble and membrane proteins at cryogenic temperatures. Acta Crystallographica Section D: Structural Biology, 2016, 72, 93-112.	2.3	91
29	Structural basis of lipoprotein signal peptidase II action and inhibition by the antibiotic globomycin. Science, 2016, 351, 876-880.	12.6	111
30	<i>In meso in situ</i> serial X-ray crystallography of soluble and membrane proteins. Acta Crystallographica Section D: Biological Crystallography, 2015, 71, 1238-1256.	2.5	103
31	A comprehensive review of the lipid cubic phase or<i>in meso</i>method for crystallizing membrane and soluble proteins and complexes. Acta Crystallographica Section F, Structural Biology Communications, 2015, 71, 3-18.	0.8	217
32	Ternary structure reveals mechanism of a membrane diacylglycerol kinase. Nature Communications, 2015, 6, 10140.	12.8	30
33	Gating Topology of the Proton-Coupled Oligopeptide Symporters. Structure, 2015, 23, 290-301.	3.3	98
34	Experimental phasing for structure determination using membrane-protein crystals grown by the lipid cubic phase method. Acta Crystallographica Section D: Biological Crystallography, 2015, 71, 104-122.	2.5	20
35	Crystal structure of rhodopsin bound to arrestin by femtosecond X-ray laser. Nature, 2015, 523, 561-567.	27.8	683
36	MemProtMD: Automated Insertion of Membrane Protein Structures into Explicit Lipid Membranes. Structure, 2015, 23, 1350-1361.	3.3	257

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37	Fast native-SAD phasing for routine macromolecular structure determination. Nature Methods, 2015, 12, 131-133.	19.0	120
38	Structural basis for ion selectivity revealed by high-resolution crystal structure of Mg2+ channel MgtE. Nature Communications, 2014, 5, 5374.	12.8	41
39	Structural basis for polyspecificity in the <scp>POT</scp> family of protonâ€coupled oligopeptide transporters. EMBO Reports, 2014, 15, 886-893.	4.5	118
40	Renaturing Membrane Proteins in the Lipid Cubic Phase, a Nanoporous Membrane Mimetic. Scientific Reports, 2014, 4, 5806.	3.3	22
41	â€˜Hit and runâ€™ serial femtosecond crystallography of a membrane kinase in the lipid cubic phase. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130621.	4.0	25
42	Cloning, expression, purification, crystallization and preliminary X-ray diffraction of a lysine-specific permease fromPseudomonas aeruginosa. Acta Crystallographica Section F, Structural Biology Communications, 2014, 70, 1362-1367.	0.8	4
43	A conformational landscape for alginate secretion across the outer membrane of<i>Pseudomonas aeruginosa</i>. Acta Crystallographica Section D: Biological Crystallography, 2014, 70, 2054-2068.	2.5	46
44	Lipidic cubic phase injector facilitates membrane protein serial femtosecond crystallography. Nature Communications, 2014, 5, 3309.	12.8	505
45	Cell-free expression and in meso crystallisation of an integral membrane kinase for structure determination. Cellular and Molecular Life Sciences, 2014, 71, 4895-4910.	5.4	32
46	Protein and Lipid Interactions Driving Molecular Mechanisms of <i>in meso</i> Crystallization. Journal of the American Chemical Society, 2014, 136, 3271-3284.	13.7	17
47	Crystallizing Membrane Proteins in the Lipidic Mesophase. Experience with Human Prostaglandin E2 Synthase 1 and an Evolving Strategy. Crystal Growth and Design, 2014, 14, 2034-2047.	3.0	61
48	The lipid cubic phase orin mesomethod for crystallizing proteins. Bushings for better manual dispensing. Journal of Applied Crystallography, 2014, 47, 1804-1806.	4.5	3
49	Preparation of 1â€Monoacylglycerols via the Suzukiâ€Miyaura Reaction: 2,3â€Dihydroxypropyl (<scp>) Tj ETQq1 1 0.784314 rgBT /Ove		7
50	Detergent-free mass spectrometry of membrane protein complexes. Nature Methods, 2013, 10, 1206-1208.	19.0	152
51	Serial Femtosecond Crystallography of G Proteinâ€“Coupled Receptors. Science, 2013, 342, 1521-1524.	12.6	424
52	Crystal structure of the integral membrane diacylglycerol kinase. Nature, 2013, 497, 521-524.	27.8	93
53	Host Lipid and Temperature as Important Screening Variables for Crystallizing Integral Membrane Proteins in Lipidic Mesophases. Trials with Diacylglycerol Kinase. Crystal Growth and Design, 2013, 13, 2846-2857.	3.0	37
54	Crystallizing Membrane Proteins for Structure-Function Studies Using Lipidic Mesophases. NATO Science for Peace and Security Series A: Chemistry and Biology, 2013, , 33-46.	0.5	2

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55	Use of a Robot for High-throughput Crystallization of Membrane Proteins in Lipidic Mesophases. Journal of Visualized Experiments, 2012, , e4000.	0.3	39
56	Harvesting and Cryo-cooling Crystals of Membrane Proteins Grown in Lipidic Mesophases for Structure Determination by Macromolecular Crystallography. Journal of Visualized Experiments, 2012, , e4001.	0.3	40
57	Membrane Protein Structure Determination Using Crystallography and Lipidic Mesophases: Recent Advances and Successes. Biochemistry, 2012, 51, 6266-6288.	2.5	106
58	Quantitative Comparison of GPCR Interactions with the Lipid Bilayer of the Cubic and Lamellar Mesophases. Biophysical Journal, 2012, 102, 467a-468a.	0.5	1
59	Why GPCRs behave differently in cubic and lamellar lipidic mesophases. Journal of the American Chemical Society, 2012, 134, 15858-15868.	13.7	47
60	A fast, simple and robust protocol for growing crystals in the lipidic cubic phase. Journal of Applied Crystallography, 2012, 45, 1330-1333.	4.5	32
61	Structural insights into electron transfer in caa3-type cytochrome oxidase. Nature, 2012, 487, 514-518.	27.8	119
62	Membrane Protein Crystallization in Lipidic Mesophases. Hosting Lipid Effects on the Crystallization and Structure of a Transmembrane Peptide. Crystal Growth and Design, 2011, 11, 1182-1192.	3.0	19
63	Overview of the 13th International Conference on the Crystallization of Biological Macromolecules. Crystal Growth and Design, 2011, 11, 4723-4730.	3.0	3
64	Crystallizing Membrane Proteins in Lipidic Mesophases. A Host Lipid Screen. Crystal Growth and Design, 2011, 11, 530-537.	3.0	48
65	Crystal structure of the Î²2 adrenergic receptorâ€“Gs protein complex. Nature, 2011, 477, 549-555.	27.8	2,712
66	Structure and function of an irreversible agonist-Î²2 adrenoceptor complex. Nature, 2011, 469, 236-240.	27.8	741
67	Lipid cubic phase as a membrane mimetic for integral membrane protein enzymes. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 8639-8644.	7.1	62
68	Crystallizing membrane proteins for structureâ€“function studies using lipidic mesophases. Biochemical Society Transactions, 2011, 39, 725-732.	3.4	42
69	Crystallizing Membrane Proteins for Structure Determination using Lipidic Mesophases. Journal of Visualized Experiments, 2010, , .	0.3	41
70	Crystallizing Transmembrane Peptides in Lipidic Mesophases. Biophysical Journal, 2010, 99, L23-L25.	0.5	45
71	Crystallizing membrane proteins using lipidic mesophases. Nature Protocols, 2009, 4, 706-731.	12.0	622
72	Crystallizing Membrane Proteins for Structure Determination: Use of Lipidic Mesophases. Annual Review of Biophysics, 2009, 38, 29-51.	10.0	203

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73	In meso crystal structure and docking simulations suggest an alternative proteoglycan binding site in the OpcA outer membrane adhesin. Proteins: Structure, Function and Bioinformatics, 2008, 71, 24-34.	2.6	40
74	Insights into the Mode of Action of a Putative Zinc Transporter CzrB in Thermus thermophilus. Structure, 2008, 16, 1378-1388.	3.3	83
75	On the Mechanism of Membrane Protein Crystallization in Lipidic Mesophases. Crystal Growth and Design, 2008, 8, 4244-4254.	3.0	65
76	J D Bernal and the genesis of structural biology. Journal of Physics: Conference Series, 2007, 57, 17-28.	0.4	1
77	Membrane protein crystallization in lipidic mesophases. A mechanism study using X-ray microdiffraction. Faraday Discussions, 2007, 136, 195.	3.2	54
78	Ultrafast Hydration Dynamics in the Lipidic Cubic Phase:Â Discrete Water Structures in Nanochannels. Journal of Physical Chemistry B, 2006, 110, 21994-22000.	2.6	75
79	Room to Move: Crystallizing Membrane Proteins in Swollen Lipidic Mesophases. Journal of Molecular Biology, 2006, 357, 1605-1618.	4.2	254
80	Interactions of Tryptophan, Tryptophan Peptides, and Tryptophan Alkyl Esters at Curved Membrane Interfacesâ€. Biochemistry, 2006, 45, 11713-11726.	2.5	41
81	Molecular Organization of Cholesterol in Unsaturated Phosphatidylethanolamines:Â X-ray Diffraction and Solid State2H NMR Reveal Differences with Phosphatidylcholines. Journal of the American Chemical Society, 2006, 128, 5375-5383.	13.7	83
82	Picolitre-scale crystallization of membrane proteins. Journal of Applied Crystallography, 2006, 39, 604-606.	4.5	22
83	Interaction of Polyunsaturated Fatty Acids with Cholesterol: A Role in Lipid Raft Phase Separation. Macromolecular Symposia, 2005, 219, 73-84.	0.7	6
84	A simple and inexpensive nanoliter-volume dispenser for highly viscous materials used in membrane protein crystallization. Journal of Applied Crystallography, 2005, 38, 398-400.	4.5	34
85	Membrane Protein Crystallization in Lipidic Mesophases with Tailored Bilayers. Structure, 2004, 12, 2113-2124.	3.3	89
86	A robotic system for crystallizing membrane and soluble proteins in lipidic mesophases. Acta Crystallographica Section D: Biological Crystallography, 2004, 60, 1795-1807.	2.5	132
87	Rational design of lipid for membrane protein crystallization. Journal of Structural Biology, 2004, 148, 169-175.	2.8	72
88	Order from disorder, corralling cholesterol with chaotic lipidsThe role of polyunsaturated lipids in membrane raft formation. Chemistry and Physics of Lipids, 2004, 132, 79-88.	3.2	145
89	Specific Radiation Damage Can Be Used to Solve Macromolecular Crystal Structures. Structure, 2003, 11, 217-224.	3.3	141
90	Nano-volume plates with excellent optical properties for fast, inexpensive crystallization screening of membrane proteins. Journal of Applied Crystallography, 2003, 36, 1372-1377.	4.5	58

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91	Membrane protein crystallization. Journal of Structural Biology, 2003, 142, 108-132.	2.8	309
92	Membrane Protein Crystallization In Meso: Lipid Type-Tailoring of the Cubic Phase. Biophysical Journal, 2002, 83, 3393-3407.	0.5	151
93	Molecular Organization of Cholesterol in Polyunsaturated Membranes: Microdomain Formation. Biophysical Journal, 2002, 82, 285-298.	0.5	146
94	Too hot to handle? Synchrotron X-ray damage of lipid membranes and mesophases. Journal of Synchrotron Radiation, 2002, 9, 333-341.	2.4	37
95	Unit-cell volume change as a metric ofÂradiation damage in crystals of macromolecules. Journal of Synchrotron Radiation, 2002, 9, 355-360.	2.4	63
96	An index of lipid phase diagrams. Chemistry and Physics of Lipids, 2002, 115, 107-219.	3.2	96
97	Crystallization Screens: Compatibility with the Lipidic Cubic Phase for in Meso Crystallization of Membrane Proteins. Biophysical Journal, 2001, 81, 225-242.	0.5	89
98	Molecular mechanism for the crystallization of bacteriorhodopsin in lipidic cubic phases. FEBS Letters, 2001, 504, 179-186.	2.8	99
99	The phase diagram of the monoolein/water system: metastability and equilibrium aspects. Biomaterials, 2000, 21, 223-234.	11.4	584
100	A lipidâ€™s eye view of membrane protein crystallization in mesophases. Current Opinion in Structural Biology, 2000, 10, 486-497.	5.7	171
101	Phase behavior of the monoerucin/water system. Chemistry and Physics of Lipids, 1999, 100, 55-79.	3.2	43
102	A simple mechanical mixer for small viscous lipid-containing samples. Chemistry and Physics of Lipids, 1998, 95, 11-21.	3.2	152
103	Lyotropic and Thermotropic Phase Behavior of Hydrated Monoacylglycerols:â€‰ Structure Characterization of Monovaccenin. Journal of Physical Chemistry B, 1998, 102, 4819-4829.	2.6	95
104	Manipulating Mesophase Behavior of Hydrated DHPE:Â An X-ray Diffraction Study of Temperature and Pressure Effects. The Journal of Physical Chemistry, 1996, 100, 299-306.	2.9	21
105	Interlamellar Transition Mechanism in Model Membranes. The Journal of Physical Chemistry, 1996, 100, 5608-5610.	2.9	19
106	The Temperature-Composition Phase Diagram and Mesophase Structure Characterization of the Monoolein/Water System. Journal De Physique II, 1996, 6, 723-751.	0.9	204
107	Xâ€ray standing waves as probes of surface structure: Incident beam energy effects. Journal of Applied Physics, 1995, 78, 2311-2322.	2.5	5
108	Phases and phase transitions of the glycoglycerolipids. Chemistry and Physics of Lipids, 1994, 69, 181-207.	3.2	61

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109	Phases and phase transitions of the hydrated phosphatidylethanolamines. Chemistry and Physics of Lipids, 1994, 69, 1-34.	3.2	191
110	The curvature elastic-energy function of the lipidâ€"water cubic mesophase. Nature, 1994, 368, 224-226.	27.8	112
111	A simple apparatus for timeâ€resolved xâ€ray diffraction biostructure studies using static and oscillating pressures and pressure jumps. Review of Scientific Instruments, 1993, 64, 383-389.	1.3	19
112	LIPIDAT: A database of lipid phase transition temperatures and enthalpy changes. DMPC data subset analysis. Chemistry and Physics of Lipids, 1992, 61, 1-109.	3.2	117
113	Structural studies of membranes and surface layers up to 1,000 Å… thick using X-ray standing waves. Nature, 1991, 354, 377-380.	27.8	65
114	Lipid-Sugar Interactions. Plant Physiology, 1988, 86, 754-758.	4.8	169
115	Kinetics and mechanism of transitions involving the lamellar, cubic, inverted hexagonal and fluid isotropic phases of hydrated monoacylglycerides monitored by time-resolved x-ray diffraction. Biochemistry, 1987, 26, 6349-6363.	2.5	144
116	Fluorescence quenching of model membranes. 3. Relationship between calcium adenosinetriphosphatase enzyme activity and the affinity of the protein for phosphatidylcholines with different acyl chain characteristics. Biochemistry, 1981, 20, 1949-1961.	2.5	242