

Frederick A Heberle

List of Publications by Year in descending order

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133
papers

9,119
citations

28242

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45285

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all docs

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docs citations

136
times ranked

6663
citing authors

#	ARTICLE	IF	CITATIONS
1	Identifying Membrane Lateral Organization by Contrast-Matched Small Angle Neutron Scattering. <i>Methods in Molecular Biology</i> , 2022, 2402, 163-177.	0.4	4
2	Changes Experienced by Low-Concentration Lipid Bicelles as a Function of Temperature. <i>Langmuir</i> , 2022, , .	1.6	3
3	Interdigitation-Induced Order and Disorder in Asymmetric Membranes. <i>Journal of Membrane Biology</i> , 2022, 255, 407-421.	1.0	9
4	Influence of ceramide on lipid domain stability studied with small-angle neutron scattering: The role of acyl chain length and unsaturation. <i>Chemistry and Physics of Lipids</i> , 2022, 245, 105205.	1.5	6
5	Sensing a little friction. <i>Biophysical Journal</i> , 2022, , .	0.2	1
6	Dataset of asymmetric giant unilamellar vesicles prepared via hemifusion: Observation of anti-alignment of domains and modulated phases in asymmetric bilayers.. <i>Data in Brief</i> , 2021, 35, 106927.	0.5	5
7	Biomembrane Structure and Material Properties Studied With Neutron Scattering. <i>Frontiers in Chemistry</i> , 2021, 9, 642851.	1.8	14
8	Reply to Nagle et al.: The universal stiffening effects of cholesterol on lipid membranes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	18
9	Investigation of the domain line tension in asymmetric vesicles prepared via hemifusion. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2021, 1863, 183586.	1.4	14
10	Model Membrane Systems Used to Study Plasma Membrane Lipid Asymmetry. <i>Symmetry</i> , 2021, 13, 1356.	1.1	23
11	Structure and Interdigitation of Chain-Asymmetric Phosphatidylcholines and Milk Sphingomyelin in the Fluid Phase. <i>Symmetry</i> , 2021, 13, 1441.	1.1	9
12	Vesicle Viewer: Online visualization and analysis of small-angle scattering from lipid vesicles. <i>Biophysical Journal</i> , 2021, 120, 4639-4648.	0.2	6
13	A calorimetric, volumetric and combined SANS and SAXS study of hybrid siloxane phosphocholine bilayers. <i>Chemistry and Physics of Lipids</i> , 2021, 241, 105149.	1.5	2
14	Transverse lipid organization dictates bending fluctuations in model plasma membranes. <i>Nanoscale</i> , 2020, 12, 1438-1447.	2.8	28
15	FRET from phase-separated vesicles: An analytical solution for a spherical geometry. <i>Chemistry and Physics of Lipids</i> , 2020, 233, 104982.	1.5	2
16	Phonon-mediated lipid raft formation in biological membranes. <i>Chemistry and Physics of Lipids</i> , 2020, 232, 104979.	1.5	9
17	Laterally Resolved Small-Angle Scattering Intensity from Lipid Bilayer Simulations: An Exact and a Limited-Range Treatment. <i>Journal of Chemical Theory and Computation</i> , 2020, 16, 5287-5300.	2.3	4
18	Lateral heterogeneity and domain formation in cellular membranes. <i>Chemistry and Physics of Lipids</i> , 2020, 232, 104976.	1.5	16

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19	Direct label-free imaging of nanodomains in biomimetic and biological membranes by cryogenic electron microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 19943-19952.	3.3	81
20	Double membrane formation in heterogeneous vesicles. Soft Matter, 2020, 16, 8806-8817.	1.2	3
21	How cholesterol stiffens unsaturated lipid membranes. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 21896-21905.	3.3	212
22	Solvent-induced membrane stress in biofuel production: molecular insights from small-angle scattering and all-atom molecular dynamics simulations. Green Chemistry, 2020, 22, 8278-8288.	4.6	9
23	Molecular Structure of Sphingomyelin in Fluid Phase Bilayers Determined by the Joint Analysis of Small-Angle Neutron and X-ray Scattering Data. Journal of Physical Chemistry B, 2020, 124, 5186-5200.	1.2	24
24	Fractal boundaries underpin the 2D melting of biomimetic rafts. Biochimica Et Biophysica Acta - Biomembranes, 2020, 1862, 183249.	1.4	5
25	Impact of Fatty-Acid Labeling of Bacillus subtilis Membranes on the Cellular Lipidome and Proteome. Frontiers in Microbiology, 2020, 11, 914.	1.5	8
26	The structures of polyunsaturated lipid bilayers by joint refinement of neutron and X-ray scattering data. Chemistry and Physics of Lipids, 2020, 229, 104892.	1.5	21
27	Lipid Rafts: Controversies Resolved, Mysteries Remain. Trends in Cell Biology, 2020, 30, 341-353.	3.6	373
28	The antioxidant vitamin E as a membrane raft modulator: Tocopherols do not abolish lipid domains. Biochimica Et Biophysica Acta - Biomembranes, 2020, 1862, 183189.	1.4	20
29	Molecular Picture of the Transient Nature of Lipid Rafts. Langmuir, 2020, 36, 4887-4896.	1.6	26
30	Lipid Rafts in Bacteria: Structure and Function. , 2020, , 3-32.		0
31	Peptide-Induced Lipid Flip-Flop in Asymmetric Liposomes Measured by Small Angle Neutron Scattering. Langmuir, 2019, 35, 11735-11744.	1.6	41
32	On the Mechanism of Bilayer Separation by Extrusion, or Why Your LUVs Are Not Really Unilamellar. Biophysical Journal, 2019, 117, 1381-1386.	0.2	72
33	Deciphering Melatonin-Stabilized Phase Separation in Phospholipid Bilayers. Langmuir, 2019, 35, 12236-12245.	1.6	25
34	With Lipid Rafts, Context Is Everything. Biophysical Journal, 2019, 117, 1549-1551.	0.2	4
35	Domains on a Sphere: Neutron Scattering, Models, and Mathematical Formalism. Chemistry and Physics of Lipids, 2019, 222, 47-50.	1.5	7
36	Lipid Rafts in Bacteria: Structure and Function. , 2019, , 1-30.		2

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37	Geometry-Dependent Nonequilibrium Steady-State Diffusion and Adsorption of Lipid Vesicles in Micropillar Arrays. <i>Advanced Materials Interfaces</i> , 2019, 6, 1900054.	1.9	2
38	Phosphatidylserine Asymmetry Promotes the Membrane Insertion of a Transmembrane Helix. <i>Biophysical Journal</i> , 2019, 116, 1495-1506.	0.2	31
39	Gramicidin Increases Lipid Flip-Flop in Symmetric and Asymmetric Lipid Vesicles. <i>Biophysical Journal</i> , 2019, 116, 860-873.	0.2	44
40	Lipid Rafts: Buffers of Cell Membrane Physical Properties. <i>Journal of Physical Chemistry B</i> , 2019, 123, 2050-2056.	1.2	40
41	Neutron diffraction from aligned stacks of lipid bilayers using the WAND instrument. <i>Journal of Applied Crystallography</i> , 2018, 51, 235-241.	1.9	9
42	Intrinsic Curvature-Mediated Transbilayer Coupling in Asymmetric Lipid Vesicles. <i>Biophysical Journal</i> , 2018, 114, 146-157.	0.2	70
43	Docosahexaenoic acid regulates the formation of lipid rafts: A unified view from experiment and simulation. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2018, 1860, 1985-1993.	1.4	65
44	FRET Detects the Size of Nanodomains for Coexisting Liquid-Disordered and Liquid-Ordered Phases. <i>Biophysical Journal</i> , 2018, 114, 1921-1935.	0.2	37
45	Neutron scattering in the biological sciences: progress and prospects. <i>Acta Crystallographica Section D: Structural Biology</i> , 2018, 74, 1129-1168.	1.1	47
46	Preparation of asymmetric phospholipid vesicles for use as cell membrane models. <i>Nature Protocols</i> , 2018, 13, 2086-2101.	5.5	128
47	Models for randomly distributed nanoscopic domains on spherical vesicles. <i>Physical Review E</i> , 2018, 97, 062405.	0.8	10
48	¹ H NMR Shows Slow Phospholipid Flip-Flop in Gel and Fluid Bilayers. <i>Langmuir</i> , 2017, 33, 3731-3741.	1.6	100
49	A Computational Approach for Modeling Neutron Scattering Data from Lipid Bilayers. <i>Journal of Chemical Theory and Computation</i> , 2017, 13, 916-925.	2.3	17
50	Line Tension Controls Liquid-Disordered+ Liquid-Ordered Domain Size Transition in Lipid Bilayers. <i>Biophysical Journal</i> , 2017, 112, 1431-1443.	0.2	78
51	Calcium and Zinc Differentially Affect the Structure of Lipid Membranes. <i>Langmuir</i> , 2017, 33, 3134-3141.	1.6	34
52	<i>Bacillus subtilis</i> Lipid Extract, A Branched-Chain Fatty Acid Model Membrane. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 4214-4217.	2.1	42
53	Capacitive Detection of Low-Enthalpy, Higher-Order Phase Transitions in Synthetic and Natural Composition Lipid Membranes. <i>Langmuir</i> , 2017, 33, 10016-10026.	1.6	27
54	Complex biomembrane mimetics on the sub-nanometer scale. <i>Biophysical Reviews</i> , 2017, 9, 353-373.	1.5	16

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55	Cholesterol Promotes Protein Binding by Affecting Membrane Electrostatics and Solvation Properties. <i>Biophysical Journal</i> , 2017, 113, 2004-2015.	0.2	38
56	Description of Hydration Water in Protein (Green Fluorescent Protein) Solution. <i>Journal of the American Chemical Society</i> , 2017, 139, 1098-1105.	6.6	68
57	The in vivo structure of biological membranes and evidence for lipid domains. <i>PLoS Biology</i> , 2017, 15, e2002214.	2.6	123
58	Joint small-angle X-ray and neutron scattering data analysis of asymmetric lipid vesicles. <i>Journal of Applied Crystallography</i> , 2017, 50, 419-429.	1.9	48
59	Cholesterol's location in lipid bilayers. <i>Chemistry and Physics of Lipids</i> , 2016, 199, 17-25.	1.5	83
60	Behavior of Bilayer Leaflets in Asymmetric Model Membranes: Atomistic Simulation Studies. <i>Journal of Physical Chemistry B</i> , 2016, 120, 8438-8448.	1.2	19
61	Subnanometer Structure of an Asymmetric Model Membrane: Interleaflet Coupling Influences Domain Properties. <i>Langmuir</i> , 2016, 32, 5195-5200.	1.6	105
62	Morphology-Induced Defects Enhance Lipid Transfer Rates. <i>Langmuir</i> , 2016, 32, 9757-9764.	1.6	11
63	Lipid bilayer thickness determines cholesterol's location in model membranes. <i>Soft Matter</i> , 2016, 12, 9417-9428.	1.2	61
64	Impact of purification conditions and history on A2A adenosine receptor activity: The role of CHAPS and lipids. <i>Protein Expression and Purification</i> , 2016, 124, 62-67.	0.6	13
65	Structural Significance of Lipid Diversity as Studied by Small Angle Neutron and X-ray Scattering. <i>Membranes</i> , 2015, 5, 454-472.	1.4	70
66	Effects of Nanoparticle Morphology and Acyl Chain Length on Spontaneous Lipid Transfer Rates. <i>Langmuir</i> , 2015, 31, 12920-12928.	1.6	27
67	α -Tocopherol's Location in Membranes Is Not Affected by Their Composition. <i>Langmuir</i> , 2015, 31, 4464-4472.	1.6	30
68	Biomembranes research using thermal and cold neutrons. <i>Chemistry and Physics of Lipids</i> , 2015, 192, 41-50.	1.5	6
69	Interactions of the Anticancer Drug Tamoxifen with Lipid Membranes. <i>Biophysical Journal</i> , 2015, 108, 2492-2501.	0.2	55
70	Mechanical Properties of Nanoscopic Lipid Domains. <i>Journal of the American Chemical Society</i> , 2015, 137, 15772-15780.	6.6	108
71	On scattered waves and lipid domains: detecting membrane rafts with X-rays and neutrons. <i>Soft Matter</i> , 2015, 11, 9055-9072.	1.2	63
72	α -Tocopherol Is Well Designed to Protect Polyunsaturated Phospholipids: MD Simulations. <i>Biophysical Journal</i> , 2015, 109, 1608-1618.	0.2	36

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73	Water and Lipid Bilayers. <i>Sub-Cellular Biochemistry</i> , 2015, 71, 45-67.	1.0	26
74	Scattering from phase-separated vesicles. I. An analytical form factor for multiple static domains. <i>Journal of Applied Crystallography</i> , 2015, 48, 1391-1404.	1.9	14
75	Structural and mechanical properties of cardiolipin lipid bilayers determined using neutron spin echo, small angle neutron and X-ray scattering, and molecular dynamics simulations. <i>Soft Matter</i> , 2015, 11, 130-138.	1.2	65
76	Molecular Structures of Fluid Phosphatidylethanolamine Bilayers Obtained from Simulation-to-Experiment Comparisons and Experimental Scattering Density Profiles. <i>Journal of Physical Chemistry B</i> , 2015, 119, 1947-1956.	1.2	81
77	Lipid-based nanodiscs as models for studying mesoscale coalescence – a transport limited case. <i>Soft Matter</i> , 2014, 10, 5055.	1.2	16
78	The molecular structure of a phosphatidylserine bilayer determined by scattering and molecular dynamics simulations. <i>Soft Matter</i> , 2014, 10, 3716.	1.2	84
79	Nanosecond lipid dynamics in membranes containing cholesterol. <i>Soft Matter</i> , 2014, 10, 2600.	1.2	46
80	Global small-angle X-ray scattering data analysis for multilamellar vesicles: the evolution of the scattering density profile model. <i>Journal of Applied Crystallography</i> , 2014, 47, 173-180.	1.9	62
81	Revisiting the bilayer structures of fluid phase phosphatidylglycerol lipids: Accounting for exchangeable hydrogens. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2014, 1838, 2966-2969.	1.4	46
82	Phase behavior and domain size in sphingomyelin-containing lipid bilayers. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2013, 1828, 1302-1313.	1.4	112
83	Phase diagram of a 4-component lipid mixture: DSPC/DOPC/POPC/chol. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2013, 1828, 2204-2214.	1.4	97
84	Growth kinetics of lipid-based nanodiscs to unilamellar vesicles – A time-resolved small angle neutron scattering (SANS) study. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2013, 1828, 1025-1035.	1.4	28
85	Bilayer Thickness Mismatch Controls Domain Size in Model Membranes. <i>Journal of the American Chemical Society</i> , 2013, 135, 6853-6859.	6.6	267
86	Limited Perturbation of a DPPC Bilayer by Fluorescent Lipid Probes: A Molecular Dynamics Study. <i>Journal of Physical Chemistry B</i> , 2013, 117, 4844-4852.	1.2	16
87	Tocopherol Activity Correlates with Its Location in a Membrane: A New Perspective on the Antioxidant Vitamin E. <i>Journal of the American Chemical Society</i> , 2013, 135, 7523-7533.	6.6	114
88	Using small-angle neutron scattering to detect nanoscopic lipid domains. <i>Chemistry and Physics of Lipids</i> , 2013, 170-171, 19-32.	1.5	32
89	Hybrid and Nonhybrid Lipids Exert Common Effects on Membrane Raft Size and Morphology. <i>Journal of the American Chemical Society</i> , 2013, 135, 14932-14935.	6.6	73
90	The Observation of Highly Ordered Domains in Membranes with Cholesterol. <i>PLoS ONE</i> , 2013, 8, e66162.	1.1	100

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91	Interactions between Ether Phospholipids and Cholesterol As Determined by Scattering and Molecular Dynamics Simulations. <i>Journal of Physical Chemistry B</i> , 2012, 116, 14829-14838.	1.2	36
92	Molecular structures of fluid phase phosphatidylglycerol bilayers as determined by small angle neutron and X-ray scattering. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2012, 1818, 2135-2148.	1.4	189
93	Time-of-flight Bragg scattering from aligned stacks of lipid bilayers using the Liquids Reflectometer at the Spallation Neutron Source. <i>Journal of Applied Crystallography</i> , 2012, 45, 1219-1227.	1.9	9
94	Scattering Density Profile Model of POPG Bilayers As Determined by Molecular Dynamics Simulations and Small-Angle Neutron and X-ray Scattering Experiments. <i>Journal of Physical Chemistry B</i> , 2012, 116, 232-239.	1.2	92
95	Model-based approaches for the determination of lipid bilayer structure from small-angle neutron and X-ray scattering data. <i>European Biophysics Journal</i> , 2012, 41, 875-890.	1.2	66
96	Effect of cholesterol on the lateral nanoscale dynamics of fluid membranes. <i>European Biophysics Journal</i> , 2012, 41, 901-913.	1.2	51
97	Control of a Nanoscopic-to-Macrosopic Transition: Modulated Phases in Four-Component DSPC/DOPC/POPC/Chol Giant Unilamellar Vesicles. <i>Biophysical Journal</i> , 2011, 101, L8-L10.	0.2	103
98	Formation of Kinetically Trapped Nanoscopic Unilamellar Vesicles from Metastable Nanodiscs. <i>Langmuir</i> , 2011, 27, 14308-14316.	1.6	41
99	Fluid phase lipid areas and bilayer thicknesses of commonly used phosphatidylcholines as a function of temperature. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2011, 1808, 2761-2771.	1.4	850
100	Small unilamellar vesicles: a platform technology for molecular imaging of brain tumors. <i>Nanotechnology</i> , 2011, 22, 195102.	1.3	28
101	Phase Separation in Lipid Membranes. <i>Cold Spring Harbor Perspectives in Biology</i> , 2011, 3, a004630-a004630.	2.3	195
102	Comparing Membrane Simulations to Scattering Experiments: Introducing the SIMtoEXP Software. <i>Journal of Membrane Biology</i> , 2010, 235, 43-50.	1.0	97
103	Small-Angle Scattering from Homogenous and Heterogeneous Lipid Bilayers. <i>Behavior Research Methods</i> , 2010, , 201-235.	2.3	17
104	Comparison of Three Ternary Lipid Bilayer Mixtures: FRET and ESR Reveal Nanodomains. <i>Biophysical Journal</i> , 2010, 99, 3309-3318.	0.2	190
105	Cholesterol in Bilayers with PUFA Chains: Doping with DMPC or POPC Results in Sterol Reorientation and Membrane-Domain Formation. <i>Biochemistry</i> , 2010, 49, 7485-7493.	1.2	109
106	Formation mechanism of self-assembled unilamellar vesicles. Special issue on Neutron Scattering in Canada. <i>Canadian Journal of Physics</i> , 2010, 88, 735-740.	0.4	6
107	What determines the thickness of a biological membrane. <i>General Physiology and Biophysics</i> , 2009, 28, 117-125.	0.4	47
108	Areas of Monounsaturated Diacylphosphatidylcholines. <i>Biophysical Journal</i> , 2009, 97, 1926-1932.	0.2	94

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109	The Functional Significance of Lipid Diversity: Orientation of Cholesterol in Bilayers Is Determined by Lipid Species. <i>Journal of the American Chemical Society</i> , 2009, 131, 16358-16359.	6.6	51
110	Neutron and X-ray scattering for biophysics and biotechnology: examples of self-assembled lipid systems. <i>Soft Matter</i> , 2009, 5, 2694.	1.2	25
111	The influence of curvature on membrane domains. <i>European Biophysics Journal</i> , 2008, 37, 665-671.	1.2	20
112	The Effect of Cholesterol on Short- and Long-Chain Monounsaturated Lipid Bilayers as Determined by Molecular Dynamics Simulations and X-Ray Scattering. <i>Biophysical Journal</i> , 2008, 95, 2792-2805.	0.2	148
113	Liquid-Liquid Domains in Bilayers Detected by Wide Angle X-Ray Scattering. <i>Biophysical Journal</i> , 2008, 95, 682-690.	0.2	104
114	Lipid Bilayer Structure Determined by the Simultaneous Analysis of Neutron and X-Ray Scattering Data. <i>Biophysical Journal</i> , 2008, 95, 2356-2367.	0.2	518
115	Cholesterol Shows Preference for the Interior of Polyunsaturated Lipid Membranes. <i>Journal of the American Chemical Society</i> , 2008, 130, 10-11.	6.6	204
116	Cholesterol Is Found To Reside in the Center of a Polyunsaturated Lipid Membrane. <i>Biochemistry</i> , 2008, 47, 7090-7096.	1.2	113
117	Phase studies of model biomembranes: Complex behavior of DSPC/DOPC/Cholesterol. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2007, 1768, 2764-2776.	1.4	208
118	Curvature Effect on the Structure of Phospholipid Bilayers. <i>Langmuir</i> , 2007, 23, 1292-1299.	1.6	124
119	Entropy-Driven Softening of Fluid Lipid Bilayers by Alamethicin. <i>Langmuir</i> , 2007, 23, 11705-11711.	1.6	70
120	The study of liposomes, lamellae and membranes using neutrons and X-rays. <i>Current Opinion in Colloid and Interface Science</i> , 2007, 12, 17-22.	3.4	41
121	Scattering from laterally heterogeneous vesicles. II. The form factor. <i>Journal of Applied Crystallography</i> , 2007, 40, 513-525.	1.9	25
122	Small-Angle Neutron Scattering to Detect Rafts and Lipid Domains. <i>Methods in Molecular Biology</i> , 2007, 398, 231-244.	0.4	27
123	Cholesterol Hydroxyl Group Is Found To Reside in the Center of a Polyunsaturated Lipid Membrane. <i>Biochemistry</i> , 2006, 45, 1227-1233.	1.2	135
124	Method of separated form factors for polydisperse vesicles. <i>Journal of Applied Crystallography</i> , 2006, 39, 293-303.	1.9	59
125	Scattering from laterally heterogeneous vesicles. I. Model-independent analysis. <i>Journal of Applied Crystallography</i> , 2006, 39, 791-796.	1.9	21
126	Fluorescence methods to detect phase boundaries in lipid bilayer mixtures. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2005, 1746, 186-192.	1.9	57

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127	Bilayer thickness and thermal response of dimyristoylphosphatidylcholine unilamellar vesicles containing cholesterol, ergosterol and lanosterol: A small-angle neutron scattering study. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2005, 1720, 84-91.	1.4	92
128	Structure and Interactions in the Anomalous Swelling Regime of Phospholipid Bilayers. <i>Langmuir</i> , 2003, 19, 1716-1722.	1.6	142
129	SANS Study of the Structural Phases of Magnetically Alignable Lanthanide-Doped Phospholipid Mixtures. <i>Langmuir</i> , 2001, 17, 2629-2638.	1.6	128
130	Location of Cholesterol in DMPC Membranes. A Comparative Study by Neutron Diffraction and Molecular Mechanics Simulation. <i>Langmuir</i> , 2001, 17, 2019-2030.	1.6	129
131	Method for obtaining structure and interactions from oriented lipid bilayers. <i>Physical Review E</i> , 2000, 63, 011907.	0.8	141
132	Adsorbed to a Rigid Substrate, Dimyristoylphosphatidylcholine Multibilayers Attain Full Hydration in All Mesophases. <i>Biophysical Journal</i> , 1998, 75, 2157-2162.	0.2	100
133	Additively Manufactured NdFeB Polyphenylene Sulfide Halbach Magnets to Generate Variable Magnetic Fields for Neutron Reflectometry. <i>3D Printing and Additive Manufacturing</i> , 0, , .	1.4	1