Frederick A Heberle

List of Publications by Year
in descending order

133 papers	9,119 citations	32410 55 h-index	51423 90 g-index
136 all docs	136 docs citations	136 times ranked	7432 citing authors

#	Article	IF	Citations
1	Identifying Membrane Lateral Organization by Contrast-Matched Small Angle Neutron Scattering. Methods in Molecular Biology, 2022, 2402, 163-177.	0.4	4
2	Changes Experienced by Low-Concentration Lipid Bicelles as a Function of Temperature. Langmuir, 2022, , .	1.6	3
3	Interdigitation-Induced Order and Disorder in Asymmetric Membranes. Journal of Membrane Biology, 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. Chemistry and Physics of Lipids, 2022, 245, 105205.	1.5	6
5	Sensing a little friction. Biophysical Journal, 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.. Data in Brief, 2021, 35, 106927.	0.5	5
7	Biomembrane Structure and Material Properties Studied With Neutron Scattering. Frontiers in Chemistry, 2021, 9, 642851.	1.8	14
8	Reply to Nagle et al.: The universal stiffening effects of cholesterol on lipid membranes. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	18
9	Investigation of the domain line tension in asymmetric vesicles prepared via hemifusion. Biochimica Et Biophysica Acta - Biomembranes, 2021, 1863, 183586.	1.4	14
10	Model Membrane Systems Used to Study Plasma Membrane Lipid Asymmetry. Symmetry, 2021, 13, 1356.	1.1	23
11	Structure and Interdigitation of Chain-Asymmetric Phosphatidylcholines and Milk Sphingomyelin in the Fluid Phase. Symmetry, 2021, 13, 1441.	1.1	9
12	Vesicle Viewer: Online visualization and analysis ofÂsmall-angle scattering from lipid vesicles. Biophysical Journal, 2021, 120, 4639-4648.	0.2	6
13	A calorimetric, volumetric and combined SANS and SAXS study of hybrid siloxane phosphocholine bilayers. Chemistry and Physics of Lipids, 2021, 241, 105149.	1.5	2
14	Transverse lipid organization dictates bending fluctuations in model plasma membranes. Nanoscale, 2020, 12, 1438-1447.	2.8	28
15	FRET from phase-separated vesicles: An analytical solution for a spherical geometry. Chemistry and Physics of Lipids, 2020, 233, 104982.	1.5	2
16	Phonon-mediated lipid raft formation in biological membranes. Chemistry and Physics of Lipids, 2020, 232, 104979.	1.5	9
17	Laterally Resolved Small-Angle Scattering Intensity from Lipid Bilayer Simulations: An Exact and a Limited-Range Treatment. Journal of Chemical Theory and Computation, 2020, 16, 5287-5300.	2.3	4
18	Lateral heterogeneity and domain formation in cellular membranes. Chemistry and Physics of Lipids, 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	Geometryâ€Dependent Nonequilibrium Steadyâ€State Diffusion and Adsorption of Lipid Vesicles in Micropillar Arrays. Advanced Materials Interfaces, 2019, 6, 1900054.	1.9	2
38	Phosphatidylserine Asymmetry Promotes the Membrane Insertion of a Transmembrane Helix. Biophysical Journal, 2019, 116, 1495-1506.	0.2	31
39	Gramicidin Increases Lipid Flip-Flop in Symmetric and Asymmetric Lipid Vesicles. Biophysical Journal, 2019, 116, 860-873.	0.2	44
40	Lipid Rafts: Buffers of Cell Membrane Physical Properties. Journal of Physical Chemistry B, 2019, 123, 2050-2056.	1.2	40
41	Neutron diffraction from aligned stacks of lipid bilayers using the WAND instrument. Journal of Applied Crystallography, 2018, 51, 235-241.	1.9	9
42	Intrinsic Curvature-Mediated Transbilayer Coupling in Asymmetric Lipid Vesicles. Biophysical Journal, 2018, 114, 146-157.	0.2	70
43	Docosahexaenoic acid regulates the formation of lipid rafts: A unified view from experiment and simulation. Biochimica Et Biophysica Acta - Biomembranes, 2018, 1860, 1985-1993.	1.4	65
44	FRET Detects the Size of Nanodomains for Coexisting Liquid-Disordered and Liquid-Ordered Phases. Biophysical Journal, 2018, 114, 1921-1935.	0.2	37
45	Neutron scattering in the biological sciences: progress and prospects. Acta Crystallographica Section D: Structural Biology, 2018, 74, 1129-1168.	1.1	47
46	Preparation of asymmetric phospholipid vesicles for use as cell membrane models. Nature Protocols, 2018, 13, 2086-2101.	5.5	128
47	Models for randomly distributed nanoscopic domains on spherical vesicles. Physical Review E, 2018, 97, 062405.	0.8	10
48	¹H NMR Shows Slow Phospholipid Flip-Flop in Gel and Fluid Bilayers. Langmuir, 2017, 33, 3731-3741.	1.6	100
49	A Computational Approach for Modeling Neutron Scattering Data from Lipid Bilayers. Journal of Chemical Theory and Computation, 2017, 13, 916-925.	2.3	17
50	Line Tension Controls Liquid-DisorderedÂ+ Liquid-Ordered Domain Size Transition in Lipid Bilayers. Biophysical Journal, 2017, 112, 1431-1443.	0.2	78
51	Calcium and Zinc Differentially Affect the Structure of Lipid Membranes. Langmuir, 2017, 33, 3134-3141.	1.6	34
52	<i>Bacillus subtilis</i> Lipid Extract, A Branched-Chain Fatty Acid Model Membrane. Journal of Physical Chemistry Letters, 2017, 8, 4214-4217.	2.1	42
53	Capacitive Detection of Low-Enthalpy, Higher-Order Phase Transitions in Synthetic and Natural Composition Lipid Membranes. Langmuir, 2017, 33, 10016-10026.	1.6	27
54	Complex biomembrane mimetics on the sub-nanometer scale. Biophysical Reviews, 2017, 9, 353-373.	1.5	16

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

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73	Water and Lipid Bilayers. Sub-Cellular Biochemistry, 2015, 71, 45-67.	1.0	26
74	Scattering from phase-separated vesicles. I. An analytical form factor for multiple static domains. Journal of Applied Crystallography, 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. Soft Matter, 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. Journal of Physical Chemistry B, 2015, 119, 1947-1956.	1.2	81
77	Lipid-based nanodiscs as models for studying mesoscale coalescence â€“ a transport limited case. Soft Matter, 2014, 10, 5055.	1.2	16
78	The molecular structure of a phosphatidylserine bilayer determined by scattering and molecular dynamics simulations. Soft Matter, 2014, 10, 3716.	1.2	84
79	Nanosecond lipid dynamics in membranes containing cholesterol. Soft Matter, 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. Journal of Applied Crystallography, 2014, 47, 173-180.	1.9	62
81	Revisiting the bilayer structures of fluid phase phosphatidylglycerol lipids: Accounting for exchangeable hydrogens. Biochimica Et Biophysica Acta - Biomembranes, 2014, 1838, 2966-2969.	1.4	46
82	Phase behavior and domain size in sphingomyelin-containing lipid bilayers. Biochimica Et Biophysica Acta - Biomembranes, 2013, 1828, 1302-1313.	1.4	112
83	Phase diagram of a 4-component lipid mixture: DSPC/DOPC/POPC/chol. Biochimica Et Biophysica Acta - Biomembranes, 2013, 1828, 2204-2214.	1.4	97
84	Growth kinetics of lipid-based nanodiscs to unilamellar vesiclesâ€"A time-resolved small angle neutron scattering (SANS) study. Biochimica Et Biophysica Acta - Biomembranes, 2013, 1828, 1025-1035.	1.4	28
85	Bilayer Thickness Mismatch Controls Domain Size in Model Membranes. Journal of the American Chemical Society, 2013, 135, 6853-6859.	6.6	267
86	Limited Perturbation of a DPPC Bilayer by Fluorescent Lipid Probes: A Molecular Dynamics Study. Journal of Physical Chemistry B, 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. Journal of the American Chemical Society, 2013, 135, 7523-7533.	6.6	114
88	Using small-angle neutron scattering to detect nanoscopic lipid domains. Chemistry and Physics of Lipids, 2013, 170-171, 19-32.	1.5	32
89	Hybrid and Nonhybrid Lipids Exert Common Effects on Membrane Raft Size and Morphology. Journal of the American Chemical Society, 2013, 135, 14932-14935.	6.6	73
90	The Observation of Highly Ordered Domains in Membranes with Cholesterol. PLoS ONE, 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. Journal of Physical Chemistry B, 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. Biochimica Et Biophysica Acta - Biomembranes, 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. Journal of Applied Crystallography, 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. Journal of Physical Chemistry B, 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. European Biophysics Journal, 2012, 41, 875-890.	1.2	66
96	Effect of cholesterol on the lateral nanoscale dynamics of fluid membranes. European Biophysics Journal, 2012, 41, 901-913.	1.2	51
97	Control of a Nanoscopic-to-Macroscopic Transition: Modulated Phases in Four-Component DSPC/DOPC/POPC/Chol Giant Unilamellar Vesicles. Biophysical Journal, 2011, 101, L8-L10.	0.2	103
98	Formation of Kinetically Trapped Nanoscopic Unilamellar Vesicles from Metastable Nanodiscs. Langmuir, 2011, 27, 14308-14316.	1.6	41
99	Fluid phase lipid areas and bilayer thicknesses of commonly used phosphatidylcholines as a function of temperature. Biochimica Et Biophysica Acta - Biomembranes, 2011, 1808, 2761-2771.	1.4	850
100	Small unilamellar vesicles: a platform technology for molecular imaging of brain tumors. Nanotechnology, 2011, 22, 195102.	1.3	28
101	Phase Separation in Lipid Membranes. Cold Spring Harbor Perspectives in Biology, 2011, 3, a004630-a004630.	2.3	195
102	Comparing Membrane Simulations to Scattering Experiments: Introducing the SIMtoEXP Software. Journal of Membrane Biology, 2010, 235, 43-50.	1.0	97
103	Small-Angle Scattering from Homogenous and Heterogeneous Lipid Bilayers. Behavior Research Methods, 2010, , 201-235.	2.3	17
104	Comparison of Three Ternary Lipid Bilayer Mixtures: FRET and ESR Reveal Nanodomains. Biophysical Journal, 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. Biochemistry, 2010, 49, 7485-7493.	1.2	109
106	Formation mechanism of self-assembled unilamellar vesiclesSpecial issue on Neutron Scattering in Canada. Canadian Journal of Physics, 2010, 88, 735-740.	0.4	6
107	What determines the thickness of a biological membrane. General Physiology and Biophysics, 2009, 28, 117-125.	0.4	47
108	Areas of Monounsaturated Diacylphosphatidylcholines. Biophysical Journal, 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. Journal of the American Chemical Society, 2009, 131, 16358-16359.	6.6	51
110	Neutron and X-ray scattering for biophysics and biotechnology: examples of self-assembled lipid systems. Soft Matter, 2009, 5, 2694.	1.2	25
111	The influence of curvature on membrane domains. European Biophysics Journal, 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. Biophysical Journal, 2008, 95, 2792-2805.	0.2	148
113	Liquid-Liquid Domains in Bilayers Detected by Wide Angle X-Ray Scattering. Biophysical Journal, 2008, 95, 682-690.	0.2	104
114	Lipid Bilayer Structure Determined by the Simultaneous Analysis of Neutron and X-Ray Scattering Data. Biophysical Journal, 2008, 95, 2356-2367.	0.2	518
115	Cholesterol Shows Preference for the Interior of Polyunsaturated Lipid Membranes. Journal of the American Chemical Society, 2008, 130, 10-11.	6.6	204
116	Cholesterol Is Found To Reside in the Center of a Polyunsaturated Lipid Membrane. Biochemistry, 2008, 47, 7090-7096.	1.2	113
117	Phase studies of model biomembranes: Complex behavior of DSPC/DOPC/Cholesterol. Biochimica Et Biophysica Acta - Biomembranes, 2007, 1768, 2764-2776.	1.4	208
118	Curvature Effect on the Structure of Phospholipid Bilayers. Langmuir, 2007, 23, 1292-1299.	1.6	124
119	Entropy-Driven Softening of Fluid Lipid Bilayers by Alamethicin. Langmuir, 2007, 23, 11705-11711.	1.6	70
120	The study of liposomes, lamellae and membranes using neutrons and X-rays. Current Opinion in Colloid and Interface Science, 2007, 12, 17-22.	3.4	41
121	Scattering from laterally heterogeneous vesicles. II. The form factor. Journal of Applied Crystallography, 2007, 40, 513-525.	1.9	25
122	Small-Angle Neutron Scattering to Detect Rafts and Lipid Domains. Methods in Molecular Biology, 2007, 398, 231-244.	0.4	27
123	Cholesterol Hydroxyl Group Is Found To Reside in the Center of a Polyunsaturated Lipid Membrane. Biochemistry, 2006, 45, 1227-1233.	1.2	135
124	Method of separated form factors for polydisperse vesicles. Journal of Applied Crystallography, 2006, 39, 293-303.	1.9	59
125	Scattering from laterally heterogeneous vesicles. I. Model-independent analysis. Journal of Applied Crystallography, 2006, 39, 791-796.	1.9	21
126	Fluorescence methods to detect phase boundaries in lipid bilayer mixtures. Biochimica Et Biophysica Acta - Molecular Cell Research, 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. Biochimica Et Biophysica Acta - Biomembranes, 2005, 1720, 84-91.	1.4	92
128	Structure and Interactions in the Anomalous Swelling Regime of Phospholipid Bilayersâ€. Langmuir, 2003, 19, 1716-1722.	1.6	142
129	SANS Study of the Structural Phases of Magnetically Alignable Lanthanide-Doped Phospholipid Mixtures. Langmuir, 2001, 17, 2629-2638.	1.6	128
130	Location of Cholesterol in DMPC Membranes. A Comparative Study by Neutron Diffraction and Molecular Mechanics Simulationâ€. Langmuir, 2001, 17, 2019-2030.	1.6	129
131	Method for obtaining structure and interactions from oriented lipid bilayers. Physical Review E, 2000, 63, 011907.	0.8	141
132	Adsorbed to a Rigid Substrate, Dimyristoylphosphatidylcholine Multibilayers Attain Full Hydration in All Mesophases. Biophysical Journal, 1998, 75, 2157-2162.	0.2	100
133	Additively Manufactured NdFeB Polyphenylene Sulfide Halbach Magnets to Generate Variable Magnetic Fields for Neutron Reflectometry. 3D Printing and Additive Manufacturing, 0, , .	1.4	1