Heather C Allen

List of Publications by Year
in descending order

93	5,849	38	75
papers	citations	h-index	g-index
		87843	74108

106	106	106	5246
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Vibrational Spectroscopic Characterization of Hematite, Maghemite, and Magnetite Thin Films Produced by Vapor Deposition. ACS Applied Materials & Interfaces, 2010, 2, 2804-2812.	4.0	652
2	Vibrational Spectroscopy of Aqueous Sodium Halide Solutions and Airâˆ'Liquid Interfaces:â€‰ Observation of Increased Interfacial Depth. Journal of Physical Chemistry B, 2004, 108, 2252-2260.	1.2	460
3	Vibrational Spectroscopic Studies of Aqueous Interfaces:â€‰ Salts, Acids, Bases, and Nanodrops. Chemical Reviews, 2006, 106, 1155-1175.	23.0	414
4	Unified Molecular Picture of the Surfaces of Aqueous Acid, Base, and Salt Solutions. Journal of Physical Chemistry B, 2005, 109, 7617-7623.	1.2	393
5	Interfacial Water Structure Associated with Phospholipid Membranes Studied by Phase-Sensitive Vibrational Sum Frequency Generation Spectroscopy. Journal of the American Chemical Society, 2010, 132, 11336-11342.	6.6	341
6	DPPC Langmuir Monolayer at the Airâˆ'Water Interface:â€‰ Probing the Tail and Head Groups by Vibrational Sum Frequency Generation Spectroscopy. Langmuir, 2006, 22, 5341-5349.	1.6	274
7	Airâˆ'Liquid Interfaces of Aqueous Solutions Containing Ammonium and Sulfate:Â Spectroscopic and Molecular Dynamics Studies. Journal of Physical Chemistry B, 2005, 109, 8861-8872.	1.2	195
8	Environmental Chemistry at Vapor/Water Interfaces: Insights from Vibrational Sum Frequency Generation Spectroscopy. Annual Review of Physical Chemistry, 2012, 63, 107-130.	4.8	133
9	Surface Studies of Aqueous Methanol Solutions by Vibrational Broad Bandwidth Sum Frequency Generation Spectroscopy. Journal of Physical Chemistry B, 2003, 107, 6343-6349.	1.2	132
10	Observation of Hydronium Ions at the Airâˆ'Aqueous Acid Interface:â€‰ Vibrational Spectroscopic Studies of Aqueous HCl, HBr, and HI. Journal of Physical Chemistry C, 2007, 111, 8814-8826.	1.5	131
11	Ionic Binding of Na⁺ versus K⁺ to the Carboxylic Acid Headgroup of Palmitic Acid Monolayers Studied by Vibrational Sum Frequency Generation Spectroscopy. Journal of Physical Chemistry A, 2009, 113, 7383-7393.	1.1	117
12	Shedding light on water structure at airâ€"aqueous interfaces: ions, lipids, and hydration. Physical Chemistry Chemical Physics, 2009, 11, 5538.	1.3	112
13	The Analysis of Interference Effects in the Sum Frequency Spectra of Water Interfacesâ€. Journal of Physical Chemistry A, 2000, 104, 10220-10226.	1.1	107
14	Binding of Mg²⁺ and Ca²⁺ to Palmitic Acid and Deprotonation of the COOH Headgroup Studied by Vibrational Sum Frequency Generation Spectroscopy. Journal of Physical Chemistry B, 2010, 114, 17068-17076.	1.2	95
15	Surface Structural Studies of Methanesulfonic Acid at Air /Aqueous Solution Interfaces Using Vibrational Sum Frequency Spectroscopyâ€. Journal of Physical Chemistry A, 2001, 105, 1649-1655.	1.1	88
16	Na⁺ and Ca²⁺ Effect on the Hydration and Orientation of the Phosphate Group of DPPC at Air<i>â˜'</i>Water and Air<i>â˜'</i>Hydrated Silica Interfaces. Journal of Physical Chemistry B, 2010, 114, 9485-9495.	1.2	84
17	Aqueous divalent metalâ€"nitrate interactions: hydration versus ion pairing. Physical Chemistry Chemical Physics, 2008, 10, 4793.	1.3	82
18	Surface pK_a of octanoic, nonanoic, and decanoic fatty acids at the airâ€"water interface: applications to atmospheric aerosol chemistry. Physical Chemistry Chemical Physics, 2017, 19, 26551-26558.	1.3	80

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19	Organization of Water and Atmospherically Relevant Ions and Solutes: Vibrational Sum Frequency Spectroscopy at the Vapor/Liquid and Liquid/Solid Interfaces. Accounts of Chemical Research, 2012, 45, 110-119.	7.6	73
20	Interfacial Water Structure and Effects of Mg2+and Ca2+Binding to the COOH Headgroup of a Palmitic Acid Monolayer Studied by Sum Frequency Spectroscopy. Journal of Physical Chemistry B, 2011, 115, 34-40.	1.2	69
21	Bulk Contributions Modulate the Sum-Frequency Generation Spectra of Water on Model Sea-Spray Aerosols. CheM, 2018, 4, 1629-1644.	5.8	69
22	From Conventional to Phase-Sensitive Vibrational Sum Frequency Generation Spectroscopy: Probing Water Organization at Aqueous Interfaces. Journal of Physical Chemistry Letters, 2012, 3, 3012-3028.	2.1	67
23	Effect of cation enrichment on dipalmitoylphosphatidylcholine (DPPC) monolayers at the air-water interface. Journal of Colloid and Interface Science, 2016, 478, 353-364.	5.0	66
24	Electric Field Reversal of Na₂SO₄, (NH₄)₂SO₄, and Na₂CO₃ Relative to CaCl₂ and NaCl at the Air/Aqueous Interface Revealed by Heterodyne Detected Phase-Sensitive Sum Frequency. Journal of Physical Chemistry Letters, 2011, 2, 2515-2520.	2.1	64
25	Direct comparison of phase-sensitive vibrational sum frequency generation with maximum entropy method: Case study of water. Journal of Chemical Physics, 2011, 135, 224701.	1.2	58
26	Palmitic Acid on Salt Subphases and in Mixed Monolayers of Cerebrosides: Application to Atmospheric Aerosol Chemistry. Atmosphere, 2013, 4, 315-336.	1.0	57
27	Surface Potential of DPPC Monolayers on Concentrated Aqueous Salt Solutions. Journal of Physical Chemistry B, 2016, 120, 2043-2052.	1.2	57
28	Surface organization of aqueous MgCl ₂ and application to atmospheric marine aerosol chemistry. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 6616-6621.	3.3	56
29	Dangling OD Confined in a Langmuir Monolayer. Journal of the American Chemical Society, 2007, 129, 14053-14057.	6.6	53
30	Cation Effects on Interfacial Water Organization of Aqueous Chloride Solutions. I. Monovalent Cations: Li⁺, Na⁺, K⁺, and NH₄⁺. Journal of Physical Chemistry B, 2014, 118, 8433-8440.	1.2	52
31	Functional Group Identification for FTIR Spectra Using Image-Based Machine Learning Models. Analytical Chemistry, 2021, 93, 9711-9718.	3.2	51
32	Interaction of <scp>l</scp>-Phenylalanine with a Phospholipid Monolayer at the Waterâ€“Air Interface. Journal of Physical Chemistry B, 2015, 119, 9038-9048.	1.2	47
33	Water Structure at the Airâˆ'Aqueous Interface of Divalent Cation and Nitrate Solutions. Journal of Physical Chemistry B, 2009, 113, 4102-4110.	1.2	43
34	Relative Order of Sulfuric Acid, Bisulfate, Hydronium, and Cations at the Airâ€“Water Interface. Journal of the American Chemical Society, 2015, 137, 13920-13926.	6.6	42
35	Sodiumâ€“carboxylate contact ion pair formation induces stabilization of palmitic acid monolayers at high pH. Physical Chemistry Chemical Physics, 2017, 19, 10481-10490.	1.3	42
36	Interfacial Supramolecular Structures of Amphiphilic Receptors Drive Aqueous Phosphate Recognition. Journal of the American Chemical Society, 2019, 141, 7876-7886.	6.6	42

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37	Effect of pH and Salt on Surface p<i>K</i>_a of Phosphatidic Acid Monolayers. Langmuir, 2018, 34, 530-539.	1.6	41
38	Hydrophobic Collapse of a Stearic Acid Film by Adsorbed l-Phenylalanine at the Airâ€"Water Interface. Journal of Physical Chemistry B, 2012, 116, 7849-7857.	1.2	40
39	Nitrate Anions and Ion Pairing at the Airâˆ’Aqueous Interface. Journal of Physical Chemistry C, 2009, 113, 2082-2087.	1.5	39
40	Impact of Salt Purity on Interfacial Water Organization Revealed by Conventional and Heterodyne-Detected Vibrational Sum Frequency Generation Spectroscopy. Journal of Physical Chemistry C, 2013, 117, 19577-19585.	1.5	38
41	Surface organization of a DPPC monolayer on concentrated SrCl₂ and ZnCl₂ solutions. Physical Chemistry Chemical Physics, 2016, 18, 32345-32357.	1.3	38
42	Oxidation of oleic acid at air/liquid interfaces. Journal of Geophysical Research, 2007, 112, .	3.3	37
43	Surface Electric Fields of Aqueous Solutions of NH₄NO₃, Mg(NO₃)₂, NaNO₃, and LiNO₃: Implications for Atmospheric Aerosol Chemistry. Journal of Physical Chemistry C, 2014, 118, 24941-24949.	1.5	37
44	Molecular-level origin of the carboxylate head group response to divalent metal ion complexation at the airâ€"water interface. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14874-14880.	3.3	37
45	New Insights into Lung Surfactant Monolayers Using Vibrational Sum Frequency Generation Spectroscopy. Photochemistry and Photobiology, 2006, 82, 1517-1529.	1.3	36
46	Methanol Reaction with Sulfuric Acid:â€‰ A Vibrational Spectroscopic Study. Journal of Physical Chemistry B, 2004, 108, 17666-17674.	1.2	34
47	Arginineâ€"Phosphate Recognition Enhanced in Phospholipid Monolayers at Aqueous Interfaces. Journal of Physical Chemistry C, 2018, 122, 26362-26371.	1.5	29
48	Solvation of Calciumâ€"Phosphate Headgroup Complexes at the DPPC/Aqueous Interface. ChemPhysChem, 2015, 16, 3910-3915.	1.0	27
49	Iron(III) Speciation Observed at Aqueous and Glycerol Surfaces: Vibrational Sum Frequency and X-ray. Journal of the American Chemical Society, 2019, 141, 13525-13535.	6.6	27
50	Effect of Magnesium Cation on the Interfacial Properties of Aqueous Salt Solutions. Journal of Physical Chemistry A, 2010, 114, 8359-8368.	1.1	26
51	Solvent-Shared Ion Pairs at the Airâ€"Solution Interface of Magnesium Chloride and Sulfate Solutions Revealed by Sum Frequency Spectroscopy and Molecular Dynamics Simulations. Journal of Physical Chemistry A, 2017, 121, 6450-6459.	1.1	26
52	Thermodynamic Signatures of the Origin of <i>Anti</i>-Hofmeister Selectivity for Phosphate at Aqueous Interfaces. Journal of Physical Chemistry A, 2020, 124, 5621-5630.	1.1	23
53	Salty Glycerol versus Salty Water Surface Organization: Bromide and Iodide Surface Propensities. Journal of Physical Chemistry A, 2013, 117, 6346-6353.	1.1	22
54	Thermodynamic<i>versus</i>non-equilibrium stability of palmitic acid monolayers in calcium-enriched sea spray aerosol proxy systems. Physical Chemistry Chemical Physics, 2018, 20, 16320-16332.	1.3	21

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55	Surface Prevalence of Perchlorate Anions at the Air/Aqueous Interface. Journal of Physical Chemistry Letters, 2013, 4, 4231-4236.	2.1	20
56	Cation effects on phosphatidic acid monolayers at various pH conditions. Chemistry and Physics of Lipids, 2016, 200, 24-31.	1.5	20
57	Influence of Salt Purity on Na⁺ and Palmitic Acid Interactions. Journal of Physical Chemistry A, 2013, 117, 13412-13418.	1.1	18
58	Uptake and Surface Reaction of Methanol by Sulfuric Acid Solutions Investigated by Vibrational Sum Frequency Generation and Raman Spectroscopies. Journal of Physical Chemistry A, 2008, 112, 7873-7880.	1.1	17
59	Incorporation and Exclusion of Long Chain Alkyl Halides in Fatty Acid Monolayers at the Airâˆ'Water Interface. Langmuir, 2010, 26, 18806-18816.	1.6	17
60	Reduced Condensing and Ordering Effects by 7-Ketocholesterol and 5Î²,6Î²-Epoxycholesterol on DPPC Monolayers. Langmuir, 2015, 31, 9859-9869.	1.6	17
61	La3+ and Y3+ interactions with the carboxylic acid moiety at the liquid/vapor interface: Identification of binding complexes, charge reversal, and detection limits. Journal of Colloid and Interface Science, 2022, 608, 2169-2180.	5.0	17
62	1-Methyl Naphthalene Reorientation at the Airâˆ'Liquid Interface upon Water Saturation Studied by Vibrational Broad Bandwidth Sum Frequency Generation Spectroscopy. Journal of Physical Chemistry B, 2003, 107, 10823-10828.	1.2	16
63	Bisulfate Dehydration at Air/Solution Interfaces Probed by Vibrational Sum Frequency Generation Spectroscopy. Journal of Physical Chemistry C, 2012, 116, 13161-13168.	1.5	15
64	Relating Structure and Ice Nucleation of Mixed Surfactant Systems Relevant to Sea Spray Aerosol. Journal of Physical Chemistry A, 2020, 124, 8806-8821.	1.1	15
65	Collapse Mechanisms of Nascent and Aged Sea Spray Aerosol Proxy Films. Atmosphere, 2018, 9, 503.	1.0	13
66	Role of Hydration in Magnesium versus Calcium Ion Pairing with Carboxylate: Solution and the Aqueous Interface. Journal of Physical Chemistry B, 2021, 125, 11308-11319.	1.2	13
67	Extracting Infrared Spectra of Protein Secondary Structures Using a Library of Protein Spectra and the Ramachandran Plot. Journal of Physical Chemistry B, 2015, 119, 13079-13092.	1.2	12
68	Lipid composition and molecular interactions change with depth in the avian stratum corneum to regulate cutaneous water loss. Journal of Experimental Biology, 2015, 218, 3032-3041.	0.8	11
69	The Oceanâ€™s Elevator: Evolution of the Airâ€"Seawater Interface during a Small-Scale Algal Bloom. ACS Earth and Space Chemistry, 2020, 4, 2347-2357.	1.2	11
70	Organization of lipids in avian stratum corneum: Changes with temperature and hydration. Chemistry and Physics of Lipids, 2016, 195, 47-57.	1.5	10
71	Molecular Recognition and Hydration Energy Mismatch Combine To Inform Ion Binding Selectivity at Aqueous Interfaces. Journal of Physical Chemistry A, 2020, 124, 10171-10180.	1.1	10
72	Effects of laser excitation wavelength and optical mode on Raman spectra of human fresh colon, pancreas, and prostate tissues. Journal of Raman Spectroscopy, 2014, 45, 773-780.	1.2	9

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73	Hydration of ferric chloride and nitrate in aqueous solutions: water-mediated ion pairing revealed by Raman spectroscopy. Physical Chemistry Chemical Physics, 2019, 21, 19172-19180.	1.3	9
74	Vibrational Spectroscopy of Gasâ€"Liquid Interfaces. , 2018, , 105-133.		8
75	Calcium bridging drives polysaccharide co-adsorption to a proxy sea surface microlayer. Physical Chemistry Chemical Physics, 2021, 23, 16401-16416.	1.3	8
76	Circuit Analysis of Ionizing Surface Potential Measurements of Electrolyte Solutions. Journal of the Electrochemical Society, 2021, 168, 016507.	1.3	8
77	Structural Effects of Cation Binding to DPPC Monolayers. Langmuir, 2020, 36, 15258-15269.	1.6	8
78	Hydration and Hydrogen Bond Order of Octadecanoic Acid and Octadecanol Films on Water at 21 and 1 Â°C. Journal of Physical Chemistry A, 2021, 125, 10065-10078.	1.1	8
79	Interfacial properties of avian stratum corneum monolayers investigated by Brewster angle microscopy and vibrational sum frequency generation. Chemistry and Physics of Lipids, 2017, 208, 1-9.	1.5	7
80	Trace Metal Enrichment Driven by Phosphate Functional Group Binding Selectivity. Journal of Geophysical Research: Oceans, 2018, 123, 5286-5297.	1.0	7
81	Biogeochemical Equation of State for the Sea-Air Interface. Atmosphere, 2019, 10, 230.	1.0	7
82	Sodium Drives Interfacial Equilibria for Semi-Soluble Phosphoric and Phosphonic Acids of Model Sea Spray Aerosol Surfaces. ACS Earth and Space Chemistry, 2020, 4, 1549-1557.	1.2	7
83	Recognition competes with hydration in anion-triggered monolayer formation of cyanostar supra-amphiphiles at aqueous interfaces. Chemical Science, 2022, 13, 4283-4294.	3.7	7
84	Discerning Poly- and Monosaccharide Enrichment Mechanisms: Alginate and Glucuronate Adsorption to a Stearic Acid Sea Surface Microlayer. ACS Earth and Space Chemistry, 2022, 6, 1581-1595.	1.2	6
85	Insight into the Ionizing Surface Potential Method and Aqueous Sodium Halide Surfaces. Langmuir, 2021, 37, 7863-7874.	1.6	5
86	Zincâ€"Carboxylate Binding in Mixed Octadecanoic Acid and Octadecanol Monolayers on Proxy Seawater Solution Surfaces. ACS Earth and Space Chemistry, 2021, 5, 2947-2956.	1.2	4
87	Presence and persistence of a highly ordered lipid phase state in the avian stratum corneum. Journal of Experimental Biology, 2018, 221, .	0.8	3
88	Vibrational exciton delocalization precludes the use of infrared intensities as proxies for surfactant accumulation on aqueous surfaces. Chemical Science, 2021, 12, 8320-8332.	3.7	3
89	An easily accessible isospiropyran switch. Organic and Biomolecular Chemistry, 2019, 17, 9124-9128.	1.5	2
90	One-Pot Aldol Cascade for the Preparation of Isospiropyrans, Flavylium Salts, and bis-Spiropyrans. Journal of Organic Chemistry, 2020, 85, 8013-8020.	1.7	2

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91	Preface: Special Topic on Ions in Water. Journal of Chemical Physics, 2018, 148, 222501.	1.2	1
92	Phase State and Thermodynamic Properties of Proxy Sea Spray Aerosol Interfaces Derived from Temperature-Dependent Equilibrium Spreading Pressure. ACS Earth and Space Chemistry, 2022, 6, 1563-1573.	1.2	1
93	Preface of John C. Hemminger Festschrift. Journal of Physical Chemistry C, 2014, 118, 28923-28923.	1.5	0