Ellen Backus

List of Publications by Year
in descending order

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91

papers

3,889

citations

94433

37

h-index

138484

58

g-index

95

all docs

95

docs citations

95

times ranked

3152

citing authors

#	Article	IF	Citations
1	High-Performance Humidity Sensing in Ï€-Conjugated Molecular Assemblies through the Engineering of Electron/Proton Transport and Device Interfaces. Journal of the American Chemical Society, 2022, 144, 2546-2555.	13.7	17
2	Passively Stabilized Phase-Resolved Collinear SFG Spectroscopy Using a Displaced Sagnac Interferometer. Journal of Physical Chemistry A, 2022, 126, 951-956.	2.5	3
3	The role of structural order in heterogeneous ice nucleation. Chemical Science, 2022, 13, 5014-5026.	7.4	10
4	Vertically Heterogeneous 2D Semi-Interpenetrating Networks Based on Cellulose Acetate and Cross-Linked Polybutadiene. Langmuir, 2022, 38, 2538-2549.	3.5	3
5	Adaptation and Recovery of a Styreneâ€Acrylic Acid Copolymer Surface to Water. Macromolecular Rapid Communications, 2022, , 2100733.	3.9	2
6	Fast Light-Driven Motion of Polydopamine Nanomembranes. Nano Letters, 2022, 22, 578-585.	9.1	21
7	Lower degree of dissociation of pyruvic acid at water surfaces than in bulk. Physical Chemistry Chemical Physics, 2022, 24, 13510-13513.	2.8	8
8	Probing the Mineralâ€"Water Interface with Nonlinear Optical Spectroscopy. Angewandte Chemie - International Edition, 2021, 60, 10482-10501.	13.8	56
9	Interfacial Water Ordering Is Insufficient to Explain Ice-Nucleating Protein Activity. Journal of Physical Chemistry Letters, 2021, 12, 218-223.	4.6	15
10	Untersuchung der Mineralâ€Wasserâ€Grenzschicht mit nichtâ€linearer optischer Spektroskopie. Angewandte Chemie, 2021, 133, 10574-10595.	2.0	3
11	Distinguishing different excitation pathways in two-dimensional terahertz-infrared-visible spectroscopy. Journal of Chemical Physics, 2021, 154, 174201.	3.0	8
12	Antisurfactant (Autophobic) Behavior of Superspreader Surfactant Solutions. Langmuir, 2021, 37, 6243-6247.	3.5	7
13	Water at charged interfaces. Nature Reviews Chemistry, 2021, 5, 466-485.	30.2	186
14	Liquid flow reversibly creates a macroscopic surface charge gradient. Nature Communications, 2021, 12, 4102.	12.8	19
15	Water Orientation at the Calcite-Water Interface. Journal of Physical Chemistry Letters, 2021, 12, 7605-7611.	4.6	16
16	Interfacial Water Structure of Binary Liquid Mixtures Reflects Nonideal Behavior. Journal of Physical Chemistry B, 2021, 125, 10639-10646.	2.6	8
17	Interfacial Vibrational Spectroscopy of the Water Bending Mode on Ice <i>I_h</i>. Journal of Physical Chemistry C, 2021, 125, 22937-22942.	3.1	4
18	Nature of Excess Hydrated Proton at the Waterâ€"Air Interface. Journal of the American Chemical Society, 2020, 142, 945-952.	13.7	41

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19	Use of Ion Exchange To Regulate the Heterogeneous Ice Nucleation Efficiency of Mica. Journal of the American Chemical Society, 2020, 142, 17956-17965.	13.7	26
20	Poly(ethylene glycol)-<i>block</i>-poly(propylene glycol)-<i>block</i>-poly(ethylene glycol) Copolymer 2D Single Network at the Airâ€"Water Interface. Langmuir, 2020, 36, 9142-9152.	3.5	6
21	Orientation independent vibrational dynamics of lipid-bound interfacial water. Physical Chemistry Chemical Physics, 2020, 22, 10142-10148.	2.8	7
22	Interfacial Vibrational Dynamics of Ice I_h and Liquid Water. Journal of the American Chemical Society, 2020, 142, 12005-12009.	13.7	11
23	Dynamic Surface Tension of Surfactants in the Presence of High Salt Concentrations. Langmuir, 2020, 36, 7956-7964.	3.5	81
24	OberflÃchenladungen an der CaF 2 â€Wasserâ€GrenzflÃche erlauben eine sehr schnelle intermolekulare Ãœbertragung von Schwingungsenergie. Angewandte Chemie, 2020, 132, 13217-13222.	2.0	2
25	Molecular Structure and Modeling of Waterâ€"Air and Iceâ€"Air Interfaces Monitored by Sum-Frequency Generation. Chemical Reviews, 2020, 120, 3633-3667.	47.7	97
26	Correlating the secondary protein structure of natural spider silk with its guiding properties for Schwann cells. Materials Science and Engineering C, 2020, 116, 111219.	7.3	21
27	Confinement and Cross-Linking of 1,2-Polybutadiene in Two Dimensions at the Airâ€"Water Interface. Langmuir, 2020, 36, 862-871.	3.5	5
28	Surface Charges at the CaF₂/Water Interface Allow Very Fast Intermolecular Vibrationalâ€Energy Transfer. Angewandte Chemie - International Edition, 2020, 59, 13116-13121.	13.8	14
29	Decoding the molecular water structure at complex interfaces through surface-specific spectroscopy of the water bending mode. Physical Chemistry Chemical Physics, 2020, 22, 10934-10940.	2.8	11
30	The Surface Activity of the Hydrated Proton Is Substantially Higher than That of the Hydroxide Ion. Angewandte Chemie - International Edition, 2019, 58, 15636-15639.	13.8	28
31	Unveiling Heterogeneity of Interfacial Water through the Water Bending Mode. Journal of Physical Chemistry Letters, 2019, 10, 6936-6941.	4.6	38
32	Das hydratisierte Proton besitzt eine deutlich hÃ¶here OberflÃchenaktivitÃt als das Hydroxidion. Angewandte Chemie, 2019, 131, 15783-15786.	2.0	1
33	Electrolytes Change the Interfacial Water Structure but Not the Vibrational Dynamics. Journal of Physical Chemistry B, 2019, 123, 8610-8616.	2.6	8
34	Surface-Specific Spectroscopy of Water at a Potentiostatically Controlled Supported Graphene Monolayer. Journal of Physical Chemistry C, 2019, 123, 24031-24038.	3.1	29
35	Unraveling the Origin of the Apparent Charge of Zwitterionic Lipid Layers. Journal of Physical Chemistry Letters, 2019, 10, 6355-6359.	4.6	17
36	Sun <i>etÂal.</i> Reply:. Physical Review Letters, 2019, 123, 099602.	7.8	1

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37	Molecular hydrophobicity at a macroscopically hydrophilic surface. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 1520-1525.	7.1	109
38	The surface affinity of cations depends on both the cations and the nature of the surface. Journal of Chemical Physics, 2019, 150, 044706.	3.0	13
39	Phase-Sensitive Sum-Frequency Generation Measurements Using a Femtosecond Nonlinear Interferometer. Journal of Physical Chemistry C, 2019, 123, 7266-7270.	3.1	15
40	The Surface of Ice under Equilibrium and Nonequilibrium Conditions. Accounts of Chemical Research, 2019, 52, 1006-1015.	15.6	57
41	How water flips at charged titanium dioxide: an SFG-study on the waterâ€“TiO₂ interface. Physical Chemistry Chemical Physics, 2019, 21, 8956-8964.	2.8	13
42	Vergleichende Acetonadsorption an Wasserâ€•und EisoberflÃchen. Angewandte Chemie, 2019, 131, 3659-3663.	2.0	0
43	How surface-specific is 2nd-order non-linear spectroscopy?. Journal of Chemical Physics, 2019, 151, 230901.	3.0	19
44	Comparative Adsorption of Acetone on Water and Ice Surfaces. Angewandte Chemie - International Edition, 2019, 58, 3620-3624.	13.8	9
45	Hydration and Orientation of Carbonyl Groups in Oppositely Charged Lipid Monolayers on Water. Journal of Physical Chemistry B, 2019, 123, 1085-1089.	2.6	33
46	Reduced Near-Resonant Vibrational Coupling at the Surfaces of Liquid Water and Ice. Journal of Physical Chemistry Letters, 2018, 9, 1290-1294.	4.6	21
47	Structure from Dynamics: Vibrational Dynamics of Interfacial Water as a Probe of Aqueous Heterogeneity. Journal of Physical Chemistry B, 2018, 122, 3667-3679.	2.6	47
48	Time-Resolved Sum Frequency Generation Spectroscopy: A Quantitative Comparison Between Intensity and Phase-Resolved Spectroscopy. Journal of Physical Chemistry A, 2018, 122, 2401-2410.	2.5	19
49	Saturation of charge-induced water alignment at model membrane surfaces. Science Advances, 2018, 4, eaap7415.	10.3	76
50	Orientational Distribution of Free O-H Groups of Interfacial Water is Exponential. Physical Review Letters, 2018, 121, 246101.	7.8	49
51	Counteracting Interfacial Energetics for Wetting of Hydrophobic Surfaces in the Presence of Surfactants. Langmuir, 2018, 34, 12344-12349.	3.5	19
52	Ice Nucleation at the Waterâ€“Sapphire Interface: Transient Sum-Frequency Response without Evidence for Transient Ice Phase. Journal of Physical Chemistry C, 2018, 122, 24760-24764.	3.1	10
53	Surface Potential of a Planar Charged Lipidâ€“Water Interface. What Do Vibrating Plate Methods, Second Harmonic and Sum Frequency Measure?. Journal of Physical Chemistry Letters, 2018, 9, 5685-5691.	4.6	44
54	Molecular Insight into the Slipperiness of Ice. Journal of Physical Chemistry Letters, 2018, 9, 2838-2842.	4.6	63

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55	Evidence for auto-catalytic mineral dissolution from surface-specific vibrational spectroscopy. Nature Communications, 2018, 9, 3316.	12.8	34
56	Trimethylamine-<i>N</i>-oxide: its hydration structure, surface activity, and biological function, viewed by vibrational spectroscopy and molecular dynamics simulations. Physical Chemistry Chemical Physics, 2017, 19, 6909-6920.	2.8	39
57	Single-crystal <i>I</i> _{<i>h</i>} ice surfaces unveil connection between macroscopic and molecular structure. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5349-5354.	7.1	12
58	Influence of Surfactants on Sodium Chloride Crystallization in Confinement. Langmuir, 2017, 33, 4260-4268.	3.5	69
59	Chemisorbed and Physisorbed Water at the TiO₂/Water Interface. Journal of Physical Chemistry Letters, 2017, 8, 2195-2199.	4.6	89
60	Conical Ionic Amphiphiles Endowed with Micellization Ability but Lacking Airâ€“Water and Oilâ€“Water Interfacial Activity. Journal of the American Chemical Society, 2017, 139, 7677-7680.	13.7	19
61	Experimental and theoretical evidence for bilayer-by-bilayer surface melting of crystalline ice. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 227-232.	7.1	131
62	Excess Hydrogen Bond at the Ice-Vapor Interface around 200ÂK. Physical Review Letters, 2017, 119, 133003.	7.8	45
63	Observation and Identification of a New OH Stretch Vibrational Band at the Surface of Ice. Journal of Physical Chemistry Letters, 2017, 8, 3656-3660.	4.6	53
64	Surface-specific vibrational spectroscopy of the water/silica interface: screening and interference. Physical Chemistry Chemical Physics, 2017, 19, 16875-16880.	2.8	91
65	Surface-charge-induced orientation of interfacial water suppresses heterogeneous ice nucleation on &lt;i&gt;Î±&lt;/i&gt;-alumina (0001). Atmospheric Chemistry and Physics, 2017, 17, 7827-7837.	4.9	52
66	Water orientation and hydrogen-bond structure at the fluorite/water interface. Scientific Reports, 2016, 6, 24287.	3.3	101
67	Ultrafast Reorientational Dynamics of Leucine at the Airâ€“Water Interface. Journal of the American Chemical Society, 2016, 138, 5226-5229.	13.7	26
68	Molecular Dynamics Simulations of SFG Librational Modes Spectra of Water at the Waterâ€“Air Interface. Journal of Physical Chemistry C, 2016, 120, 18665-18673.	3.1	34
69	Unveiling the Amphiphilic Nature of TMAO by Vibrational Sum Frequency Generation Spectroscopy. Journal of Physical Chemistry C, 2016, 120, 17435-17443.	3.1	33
70	Water in Contact with a Cationic Lipid Exhibits Bulklike Vibrational Dynamics. Journal of Physical Chemistry B, 2016, 120, 10069-10078.	2.6	26
71	Both Inter- and Intramolecular Coupling of Oâ€“H Groups Determine the Vibrational Response of the Water/Air Interface. Journal of Physical Chemistry Letters, 2016, 7, 4591-4595.	4.6	101
72	Ice-nucleating bacteria control the order and dynamics of interfacial water. Science Advances, 2016, 2, e1501630.	10.3	182

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73	Molecular Modeling of Water Interfaces: From Molecular Spectroscopy to Thermodynamics. Journal of Physical Chemistry B, 2016, 120, 3785-3796.	2.6	39
74	Oppositely Charged Ions at Waterâ€“Air and Waterâ€“Oil Interfaces: Contrasting the Molecular Picture with Thermodynamics. Journal of Physical Chemistry Letters, 2016, 7, 825-830.	4.6	29
75	Molecular Structure and Dynamics of Water at the Waterâ€“Air Interface Studied with Surfaceâ€•Specific Vibrational Spectroscopy. Angewandte Chemie - International Edition, 2015, 54, 5560-5576.	13.8	132
76	Interaction of a Patterned Amphiphilic Polyphenylene Dendrimer with a Lipid Monolayer: Electrostatic Interactions Dominate. Langmuir, 2015, 31, 1980-1987.	3.5	16
77	Lipid Carbonyl Groups Terminate the Hydrogen Bond Network of Membrane-Bound Water. Journal of Physical Chemistry Letters, 2015, 6, 4499-4503.	4.6	74
78	The surface roughness, but not the water molecular orientation varies with temperature at the waterâ€“air interface. Physical Chemistry Chemical Physics, 2015, 17, 23559-23564.	2.8	60
79	Two Types of Water at the Waterâ€“Surfactant Interface Revealed by Time-Resolved Vibrational Spectroscopy. Journal of the American Chemical Society, 2015, 137, 14912-14919.	13.7	58
80	Probing ultrafast temperature changes of aqueous solutions with coherent terahertz pulses. Optics Letters, 2014, 39, 1717.	3.3	14
81	Aqueous Heterogeneity at the Air/Water Interface Revealed by 2Dâ€•HDâ€•SFG Spectroscopy. Angewandte Chemie - International Edition, 2014, 53, 8146-8149.	13.8	106
82	Synthesis at the Airâ€“Water Interface of a Two-Dimensional Semi-Interpenetrating Network Based on Poly(dimethylsiloxane) and Cellulose Acetate Butyrate. Langmuir, 2014, 30, 11919-11927.	3.5	13
83	Liquid flow along a solid surface reversibly alters interfacial chemistry. Science, 2014, 344, 1138-1142.	12.6	187
84	Mechanism of vibrational energy dissipation of free OH groups at the airâ€“water interface. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 18780-18785.	7.1	77
85	Water Bending Mode at the Waterâ€“Vapor Interface Probed by Sum-Frequency Generation Spectroscopy: A Combined Molecular Dynamics Simulation and Experimental Study. Journal of Physical Chemistry Letters, 2013, 4, 1872-1877.	4.6	100
86	Determining In Situ Protein Conformation and Orientation from the Amide-I Sum-Frequency Generation Spectrum: Theory and Experiment. Journal of Physical Chemistry A, 2013, 117, 6311-6322.	2.5	81
87	Nuclear Quantum Effects Affect Bond Orientation of Water at the Water-Vapor Interface. Physical Review Letters, 2012, 109, 226101.	7.8	79
88	Laser-Heating-Induced Displacement of Surfactants on the Water Surface. Journal of Physical Chemistry B, 2012, 116, 2703-2712.	2.6	60
89	Sum-Frequency Generation Spectroscopy of Cinnamate Modified Cellulosic Polymer at the Airâ€“Water Interface. Journal of Physical Chemistry B, 2012, 116, 6041-6049.	2.6	12
90	On the Role of Fresnel Factors in Sum-Frequency Generation Spectroscopy of Metalâ€“Water and Metal-Oxideâ€“Water Interfaces. Journal of Physical Chemistry C, 2012, 116, 23351-23361.	3.1	65

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91	Comparative Study of Direct and Phase-Specific Vibrational Sum-Frequency Generation Spectroscopy: Advantages and Limitations. Journal of Physical Chemistry B, 2011, 115, 15362-15369.	2.6	73