Cari S Dutcher

List of Publications by Year
in descending order

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65 papers	1,815 citations	201674 27 h-index	289244 40 g-index
69 all docs	69 docs citations	69 times ranked	1767 citing authors

#	Article	IF	Citations
1	Surface Tensions of Inorganic Multicomponent Aqueous Electrolyte Solutions and Melts. Journal of Physical Chemistry A, 2010, 114, 12216-12230.	2.5	117
2	Increasing Isoprene Epoxydiol-to-Inorganic Sulfate Aerosol Ratio Results in Extensive Conversion of Inorganic Sulfate to Organosulfur Forms: Implications for Aerosol Physicochemical Properties. Environmental Science & Technology, 2019, 53, 8682-8694.	10.0	111
3	Direct Measurement of pH in Individual Particles via Raman Microspectroscopy and Variation in Acidity with Relative Humidity. Journal of Physical Chemistry A, 2016, 120, 911-917.	2.5	95
4	Diffusion and reactivity in ultraviscous aerosol and the correlation with particle viscosity. Chemical Science, 2016, 7, 1298-1308.	7.4	95
5	Direct Determination of Aerosol pH: Size-Resolved Measurements of Submicrometer and Supermicrometer Aqueous Particles. Analytical Chemistry, 2018, 90, 11232-11239.	6.5	91
6	Spectroscopic Determination of Aerosol pH from Acidâ€“Base Equilibria in Inorganic, Organic, and Mixed Systems. Journal of Physical Chemistry A, 2017, 121, 5690-5699.	2.5	79
7	Statistical Mechanics of Multilayer Sorption: Extension of the Brunauerâ€“Emmettâ€“Teller (BET) and Guggenheimâ€“Andersonâ€“de Boer (GAB) Adsorption Isotherms. Journal of Physical Chemistry C, 2011, 115, 16474-16487.	3.1	64
8	Influence of organic compound functionality on aerosol hygroscopicity: dicarboxylic acids, alkyl-substituents, sugars and amino acids. Atmospheric Chemistry and Physics, 2017, 17, 5583-5599.	4.9	60
9	Organic Component Vapor Pressures and Hygroscopicities of Aqueous Aerosol Measured by Optical Tweezers. Journal of Physical Chemistry A, 2015, 119, 704-718.	2.5	56
10	Spatio-temporal mode dynamics and higher order transitions in high aspect ratio Newtonian Taylorâ€“Couette flows. Journal of Fluid Mechanics, 2009, 641, 85-113.	3.4	52
11	A review of microfluidic concepts and applications for atmospheric aerosol science. Aerosol Science and Technology, 2018, 52, 310-329.	3.1	43
12	An Isotherm-Based Thermodynamic Model of Multicomponent Aqueous Solutions, Applicable Over the Entire Concentration Range. Journal of Physical Chemistry A, 2013, 117, 3198-3213.	2.5	39
13	Influence of particle viscosity on mass transfer and heterogeneous ozonolysis kinetics in aqueousâ€“sucroseâ€“maleic acid aerosol. Physical Chemistry Chemical Physics, 2018, 20, 15560-15573.	2.8	39
14	Pancreatic islet cryopreservation by vitrification achieves high viability, function, recovery and clinical scalability for transplantation. Nature Medicine, 2022, 28, 798-808.	30.7	39
15	Effects of moderate elasticity on the stability of co- and counter-rotating Taylorâ€“Couette flows. Journal of Rheology, 2013, 57, 791-812.	2.6	36
16	Electrolyte-Dependent Aggregation of Colloidal Particles near Electrodes in Oscillatory Electric Fields. Langmuir, 2014, 30, 4887-4894.	3.5	34
17	Interfacial Tensions of Aged Organic Aerosol Particle Mimics Using a Biphasic Microfluidic Platform. Environmental Science & Technology, 2016, 50, 1251-1259.	10.0	33
18	Removing Water from Diesel Fuel: Understanding the Impact of Droplet Size on Dynamic Interfacial Tension of Water-in-Fuel Emulsions. Energy & Fuels, 2018, 32, 7326-7337.	5.1	33

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19	Zooming in on the role of surfactants in droplet coalescence at the macroscale and microscale. Current Opinion in Colloid and Interface Science, 2020, 50, 101385.	7.4	33
20	Statistical Mechanics of Multilayer Sorption: 2. Systems Containing Multiple Solutes. Journal of Physical Chemistry C, 2012, 116, 1850-1864.	3.1	32
21	Insights into the Microscale Coalescence Behavior of Surfactant-Stabilized Droplets Using a Microfluidic Hydrodynamic Trap. Langmuir, 2020, 36, 9827-9842.	3.5	32
22	Statistical Mechanics of Multilayer Sorption: Surface Tension. Journal of Physical Chemistry Letters, 2013, 4, 1723-1726.	4.6	31
23	pH dependence of bentonite aggregate size and morphology on polymer-clay flocculation. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2018, 537, 281-286.	4.7	30
24	Phase-Dependent Surfactant Transport on the Microscale: Interfacial Tension and Droplet Coalescence. Langmuir, 2020, 36, 14904-14923.	3.5	30
25	Size dependent droplet interfacial tension and surfactant transport in liquidâ€“liquid systems, with applications in shipboard oily bilgewater emulsions. Soft Matter, 2020, 16, 2994-3004.	2.7	29
26	A review of liquid sheet breakup: Perspectives from agricultural sprays. Journal of Aerosol Science, 2021, 157, 105805.	3.8	29
27	Atmospheric Aqueous Aerosol Surface Tensions: Isotherm-Based Modeling and Biphasic Microfluidic Measurements. Journal of Physical Chemistry A, 2017, 121, 4733-4742.	2.5	29
28	Effects of weak elasticity on the stability of high Reynolds number co- and counter-rotating Taylor-Couette flows. Journal of Rheology, 2011, 55, 1271-1295.	2.6	28
29	Ionic strength dependence of aggregate size and morphology on polymer-clay flocculation. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2017, 529, 1037-1046.	4.7	28
30	Extensional Flow Behavior of Methylcellulose Solutions Containing Fibrils. ACS Macro Letters, 2018, 7, 347-352.	4.8	28
31	Droplet Interfacial Tensions and Phase Transitions Measured in Microfluidic Channels. Annual Review of Physical Chemistry, 2021, 72, 73-97.	10.8	26
32	Phase Behavior of Ammonium Sulfate with Organic Acid Solutions in Aqueous Aerosol Mimics Using Microfluidic Traps. Journal of Physical Chemistry B, 2018, 122, 3480-3490.	2.6	22
33	Statistical Thermodynamic Model for Surface Tension of Organic and Inorganic Aqueous Mixtures. Journal of Physical Chemistry A, 2017, 121, 198-205.	2.5	18
34	Surface Tensions of Picoliter Droplets with Sub-Millisecond Surface Age. Journal of Physical Chemistry A, 2019, 123, 3021-3029.	2.5	18
35	Statistical Thermodynamic Model for Surface Tension of Aqueous Organic Acids with Consideration of Partial Dissociation. Journal of Physical Chemistry A, 2016, 120, 4368-4375.	2.5	17
36	Multistep Phase Transitions in Sea Surface Microlayer Droplets and Aerosol Mimics using Microfluidic Wells. ACS Earth and Space Chemistry, 2019, 3, 1260-1267.	2.7	17

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37	Impact of Interfacial Tension and Critical Micelle Concentration on Bilgewater Oil Separation. Journal of Water Process Engineering, 2021, 39, 101684.	5.6	17
38	Isotherm-Based Thermodynamic Model for Electrolyte and Nonelectrolyte Solutions Incorporating Long- and Short-Range Electrostatic Interactions. Journal of Physical Chemistry A, 2015, 119, 3244-3252.	2.5	16
39	Microfluidic rheology of methylcellulose solutions in hyperbolic contractions and the effect of salt in shear and extensional flows. Soft Matter, 2020, 16, 5273-5281.	2.7	16
40	Droplet shape relaxation in a four-channel microfluidic hydrodynamic trap. Physical Review Fluids, 2020, 5, .	2.5	16
41	Parameter Interpretation and Reduction for a Unified Statistical Mechanical Surface Tension Model. Journal of Physical Chemistry Letters, 2015, 6, 3384-3389.	4.6	14
42	Taylor-Couette flow with radial fluid injection. Review of Scientific Instruments, 2017, 88, 083904.	1.3	14
43	Accurate Prediction of Organic Aerosol Evaporation Using Kinetic Multilayer Modeling and the Stokesâ€“Einstein Equation. Journal of Physical Chemistry A, 2021, 125, 3444-3456.	2.5	13
44	Temperature-Dependent Phase Transitions of Aqueous Aerosol Droplet Systems in Microfluidic Traps. ACS Earth and Space Chemistry, 2020, 4, 1527-1539.	2.7	12
45	Ice Nucleating Activity and Residual Particle Morphology of Bulk Seawater and Sea Surface Microlayer. ACS Earth and Space Chemistry, 2021, 5, 1916-1928.	2.7	12
46	A Microfluidic Device for Automated High Throughput Detection of Ice Nucleation of SnomaxÂ®. Micromachines, 2021, 12, 296.	2.9	11
47	Isotherm-Based Thermodynamic Models for Solute Activities of Organic Acids with Consideration of Partial Dissociation. Journal of Physical Chemistry A, 2016, 120, 4147-4154.	2.5	10
48	Isotherm-Based Thermodynamic Model for Solute Activities of Asymmetric Electrolyte Aqueous Solutions. Journal of Physical Chemistry A, 2017, 121, 6957-6965.	2.5	9
49	In situ polymer flocculation and growth in Taylorâ€“Couette flows. Soft Matter, 2018, 14, 8627-8635.	2.7	8
50	Axial mixing and vortex stability to in situ radial injection in Taylorâ€“Couette laminar and turbulent flows. Journal of Fluid Mechanics, 2018, 854, 324-347.	3.4	8
51	Internal structure visualization of polymer â€” clay flocculants using fluorescence. Colloids and Interface Science Communications, 2016, 10-11, 1-5.	4.1	6
52	Dilatational rheology of water-in-diesel fuel interfaces: effect of surfactant concentration and bulk-to-interface exchange. Soft Matter, 2021, 17, 4751-4765.	2.7	6
53	Ionic strength and polyelectrolyte molecular weight effects on floc formation and growth in Taylorâ€“Couette flows. Soft Matter, 2021, 17, 1246-1257.	2.7	5
54	Concentration Depth Profile-Based Multilayer Sorption Surface Tension Model for Aqueous Solutions. Journal of Physical Chemistry A, 2021, 125, 1577-1588.	2.5	5

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55	Measurements of Static and Dynamic Bubble Surface Tension Using a Deformation-Based Microfluidic Tensiometer. Journal of Physical Chemistry B, 2021, 125, 13916-13927.	2.6	5
56	Microfluidic filament thinning of aqueous, fibrillar methylcellulose solutions. Physical Review Fluids, 2020, 5, .	2.5	4
57	Polymer and Particle Dynamics and Assembly in Varied Hydrodynamic Fields. Macromolecular Chemistry and Physics, 2016, 217, 390-402.	2.2	3
58	Electrohydrodynamic aggregation with vertically inverted systems. Physical Review E, 2018, 97, 022614.	2.1	3
59	Droplet breakup in a stagnation-point flow. Journal of Fluid Mechanics, 2020, 901, .	3.4	2
60	Polyelectrolyte solutions in Taylor-Couette flows. Journal of Non-Newtonian Fluid Mechanics, 2021, 295, 104617.	2.4	1
61	Inertio-Elastic Stability Modifications with Drag Reducing Polymeric Solutions. AIP Conference Proceedings, 2008, , .	0.4	0
62	Statistical mechanics of multilayer sorption: Surface tension. , 2013, , .		0
63	Thermodynamic modeling of atmospheric aerosols: 0-100% relative humidity. , 2013, , .		0
64	Flow behavior of concentrated tricalcium phosphate suspensions in oil through injection for softgel encapsulation. International Journal of Pharmaceutics, 2021, 601, 120562.	5.2	0
65	Droplet microfluidics for studying surfactant-rich interfaces found in aerosols, emulsions and foams. , 2022, 3, 100061.		0