Charles Maldarelli

List of Publications by Year
in descending order

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69 papers	2,971 citations	147566 31 h-index	161609 54 g-index
70 all docs	70 docs citations	70 times ranked	2544 citing authors

#	Article	IF	Citations
1	Diffusion-controlled surfactant adsorption studied by pendant drop digitization. AIChE Journal, 1990, 36, 1785-1795.	1.8	276
2	Diffusion-limited interpretation of the induction period in the relaxation in surface tension due to the adsorption of straight chain, small polar group surfactants: theory and experiment. Langmuir, 1991, 7, 1055-1066.	1.6	157
3	On the surfactant mass balance at a deforming fluid interface. Physics of Fluids, 1996, 8, 3203-3204.	1.6	147
4	Stability of symmetric and unsymmetric thin liquid films to short and long wavelength perturbations. Journal of Colloid and Interface Science, 1980, 78, 118-143.	5.0	141
5	Switchable Hydrolase Based on Reversible Formation of Supramolecular Catalytic Site Using a Selfâ€Assembling Peptide. Angewandte Chemie - International Edition, 2017, 56, 14511-14515.	7.2	131
6	Remobilizing surfactant retarded fluid particle interfaces. I. Stressâ€free conditions at the interfaces of micellar solutions of surfactants with fast sorption kinetics. Physics of Fluids A, Fluid Dynamics, 1991, 3, 3-20.	1.6	123
7	Theory and Experiment on the Measurement of Kinetic Rate Constants for Surfactant Exchange at an Air/Water Interface. Journal of Colloid and Interface Science, 1998, 205, 213-230.	5.0	120
8	Switchable Hydrolase Based on Reversible Formation of Supramolecular Catalytic Site Using a Selfâ€Assembling Peptide. Angewandte Chemie, 2017, 129, 14703-14707.	1.6	109
9	Self-diffusiophoretic colloidal propulsion near a solid boundary. Physics of Fluids, 2016, 28, .	1.6	103
10	Remobilizing Surfactant Retarded Fluid Particle Interfaces. Journal of Colloid and Interface Science, 1994, 163, 177-189.	5.0	93
11	Theory and experiments on the stagnant cap regime in the motion of spherical surfactant-laden bubbles. Journal of Fluid Mechanics, 2006, 559, 1.	1.4	87
12	Effect of Cohesive Energies between Adsorbed Molecules on Surfactant Exchange Processes: Shifting from Diffusion Control for Adsorption to Kinetic-Diffusive Control for Re-equilibration. Langmuir, 1994, 10, 3442-3448.	1.6	75
13	Measurement of the kinetic rate constants for the adsorption of superspreading trisiloxanes to an air/aqueous interface and the relevance of these measurements to the mechanism of superspreading. Journal of Colloid and Interface Science, 2003, 267, 272-285.	5.0	72
14	Diffusiophoretic self-propulsion of colloids driven by a surface reaction: The sub-micron particle regime for exponential and van der Waals interactions. Physics of Fluids, 2013, 25, .	1.6	64
15	Mixture Effect on the Dilatation Rheology of Asphaltenes-Laden Interfaces. Langmuir, 2017, 33, 1927-1942.	1.6	56
16	Spectral Bar Coding of Polystyrene Microbeads Using Multicolored Quantum Dots. Analytical Chemistry, 2007, 79, 8520-8530.	3.2	55
17	Phase Behavior of Sparingly Soluble Polyethoxylate Monolayers at the Airâ^'Water Surface and Its Effect on Dynamic Tension. Langmuir, 1998, 14, 7222-7234.	1.6	53
18	Hydrodynamics of Particles at an Oilâ€“Water Interface. Langmuir, 2015, 31, 13290-13302.	1.6	52

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19	Theory and experiment on the low-Reynolds-number expansion and contraction of a bubble pinned at a submerged tube tip. Journal of Fluid Mechanics, 1998, 356, 93-124.	1.4	50
20	Sacrificial amphiphiles: Eco-friendly chemical herders as oil spill mitigation chemicals. Science Advances, 2015, 1, e1400265.	4.7	50
21	Increased mobility of a surfactant-retarded bubble at high bulk concentrations. Journal of Fluid Mechanics, 1999, 390, 251-270.	1.4	43
22	Molecular Dynamics Study of the Influence of Surfactant Structure on Surfactant-Facilitated Spreading of Droplets on Solid Surfaces. Langmuir, 2005, 21, 12160-12170.	1.6	41
23	Arraying of Intact Liposomes into Chemically Functionalized Microwells. Langmuir, 2006, 22, 5403-5411.	1.6	41
24	A molecular dynamics study of the motion of a nanodroplet of pure liquid on a wetting gradient. Journal of Chemical Physics, 2008, 129, 164708.	1.2	38
25	Wetting of hydrophobic substrates by nanodroplets of aqueous trisiloxane and alkyl polyethoxylate surfactant solutions. Chemical Engineering Science, 2009, 64, 4657-4667.	1.9	38
26	The linear, hydrodynamic stability of an interfacially perturbed, transversely isotropic, thin, planar viscoelastic film. Journal of Colloid and Interface Science, 1982, 90, 233-262.	5.0	36
27	Unravelling the secret of seed-based gels in water: the nanoscale 3D network formation. Scientific Reports, 2018, 8, 7315.	1.6	35
28	Fluorescence Evidence That a Phase Transition Causes the Induction Time in the Reduction in Dynamic Tension during Surfactant Adsorption to a Clean Air/Water Interface and a Kineticâ€“Diffusive Transport Model for the Phase-Induced Induction. Journal of Colloid and Interface Science, 2002, 253, 377-392.	5.0	34
29	Temporal and spatial instability of an inviscid compound jet. Rheologica Acta, 1996, 35, 567-583.	1.1	33
30	Formation of Nanometer Domains of One Chemical Functionality in a Continuous Matrix of a Second Chemical Functionality by Sequential Adsorption of Silane Self-Assembled Monolayers. Langmuir, 2001, 17, 7789-7797.	1.6	33
31	Armoring the Interface with Surfactants to Prevent the Adsorption of Monoclonal Antibodies. ACS Applied Materials & Interfaces, 2020, 12, 9977-9988.	4.0	32
32	Interfacial Tension of Liquid Crystalline Droplets. Langmuir, 2003, 19, 7370-7373.	1.6	31
33	Fabrication of Surfaces with Nanoislands of Chemical Functionality by the Phase Separation of Self-Assembling Monolayers on Silicon. Langmuir, 2003, 19, 3254-3265.	1.6	31
34	Reduction in Aggregation and Energy Transfer of Quantum Dots Incorporated in Polystyrene Beads by Kinetic Entrapment due to Cross-Linking during Polymerization. Langmuir, 2015, 31, 3167-3179.	1.6	31
35	The axisymmetric thermocapillary motion of a fluid particle in a tube. Journal of Fluid Mechanics, 1991, 233, 405-437.	1.4	25
36	Self-propelled colloidal particle near a planar wall: A Brownian dynamics study. Physical Review Fluids, 2018, 3, .	1.0	24

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37	The influence of surfactant adsorption on the motion of a fluid sphere in a tube. Part 1. Uniform retardation controlled by sorption kinetics. Journal of Fluid Mechanics, 1991, 222, 1.	1.4	23
38	Atomistic simulations of the wetting behavior of nanodroplets of water on homogeneous and phase separated self-assembled monolayers. Soft Matter, 2010, 6, 1297.	1.2	22
39	Highly crosslinked poly(dimethylsiloxane) microbeads with uniformly dispersed quantum dot nanocrystals. Journal of Colloid and Interface Science, 2011, 363, 25-33.	5.0	22
40	Marangoni effects on the motion of an expanding or contracting bubble pinned at a submerged tube tip. Journal of Fluid Mechanics, 1999, 379, 279-302.	1.4	21
41	Diffusivity and hydrodynamic drag of nanoparticles at a vapor-liquid interface. Physical Review Fluids, 2017, 2, .	1.0	21
42	An experimental investigation of the convective instability of a jet. Chemical Engineering Science, 2003, 58, 2421-2432.	1.9	20
43	The absolute instability of an inviscid compound jet. Journal of Fluid Mechanics, 2006, 549, 81.	1.4	20
44	No ordinary proteins: Adsorption and molecular orientation of monoclonal antibodies. Science Advances, 2021, 7, .	4.7	20
45	Effects of Functional Groups on Surface Pressureâ^'Area Isotherms of Hydrophilic Silicone Polymers. Langmuir, 2006, 22, 9566-9571.	1.6	19
46	Microfluidic Study of the Electrocoalescence of Aqueous Droplets in Crude Oil. ACS Omega, 2020, 5, 7348-7360.	1.6	19
47	Molecular Dynamics Simulation of the Motion of Colloidal Nanoparticles in a Solute Concentration Gradient and a Comparison to the Continuum Limit. Physical Review Letters, 2013, 111, 184501.	2.9	18
48	Electrochemical Immunosensing of Interleukin-6 in Human Cerebrospinal Fluid and Human Serum as an Early Biomarker for Traumatic Brain Injury. ACS Measurement Science Au, 2021, 1, 65-73.	1.9	17
49	Fluorescence Visualization and Modeling of a Micelle-Free Zone Formed at the Interface between an Oil and an Aqueous Micellar Phase during Interfacial Surfactant Transport. Langmuir, 2010, 26, 15761-15778.	1.6	15
50	Measurement of Infrared Molar Absorptivity of a Surfactant Adsorbed onto a Solid Substrate over a Wide Range of Surface Concentrations Using Octadecyltrichlorosilane Langmuirâ^'Blodgett Transferred Films. Journal of Physical Chemistry B, 1998, 102, 3152-3159.	1.2	14
51	Using surfactants to control the formation and size of wakes behind moving bubbles at order-one Reynolds numbers. Journal of Fluid Mechanics, 2002, 453, 1-19.	1.4	14
52	Dynamic Surface Activity by Folding and Unfolding an Amphiphilic Î±-Helix. Langmuir, 2008, 24, 9923-9928.	1.6	14
53	Imaging and Estimating the Surface Heterogeneity on a Droplet Containing Cosolvents. Journal of Physical Chemistry B, 2009, 113, 9636-9639.	1.2	13
54	Solid with infused reactive liquid (SWIRL): A novel liquid-based separation approach for effective CO ₂ capture. Science Advances, 2022, 8, eabm0144.	4.7	13

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55	Molecular dynamics study of the translation and rotation of amphiphilic Janus nanoparticles at a vapor-liquid surface. Physical Review Fluids, 2019, 4, .	1.0	12
56	The Translational and Rotational Dynamics of a Colloid Moving Along the Air-Liquid Interface of a Thin Film. Scientific Reports, 2018, 8, 8910.	1.6	10
57	Soil granular dynamics on-a-chip: fluidization inception under scrutiny. Lab on A Chip, 2019, 19, 1226-1235.	3.1	10
58	A lipobead microarray assembled by particle entrapment in a microfluidic obstacle course and used for the display of cell membrane receptors. Lab on A Chip, 2013, 13, 3041.	3.1	9
59	Modeling the dynamic folding and surface-activity of a helical peptide adsorbing to a pendant bubble interface. Journal of Colloid and Interface Science, 2009, 331, 364-370.	5.0	7
60	Surfactant and dilatational viscosity effects on the deformation of liquid droplets in an electric field. Journal of Colloid and Interface Science, 2022, 607, 900-911.	5.0	7
61	Pairwise hydrodynamic interactions of spherical colloids at a gas-liquid interface. Journal of Fluid Mechanics, 2021, 915, .	1.4	6
62	Athermal sediment creep triggered by porous flow. Physical Review Fluids, 2021, 6, .	1.0	5
63	Continuum and Molecular Dynamics Studies of the Hydrodynamics of Colloids Straddling a Fluid Interface. Annual Review of Fluid Mechanics, 2022, 54, 495-523.	10.8	5
64	Adsorption of rationally designed â€œsurf-tidesâ€•to a liquid-crystal interface. Soft Matter, 2015, 11, 6604-6612.	1.2	4
65	Mass transfer in the biomolecular binding of a target against probe molecules on the surface of microbeads sequestered in wells in a microfluidic cell. Lab on A Chip, 2015, 15, 459-477.	3.1	4
66	Protein Adsorption at a Gas-Aqueous Interface. AAPS Advances in the Pharmaceutical Sciences Series, 2021, , 9-49.	0.2	3
67	Transport of biomolecules to binding partners displayed on the surface of microbeads arrayed in traps in a microfluidic cell. Biomicrofluidics, 2017, 11, 014101.	1.2	2
68	Interfacial Behaviors of Proteins. AAPS Advances in the Pharmaceutical Sciences Series, 2021, , 51-114.	0.2	2
69	Flow of a train of deformable fluid particles in a tube. Applied Mathematics and Mechanics (English) Tj ETQq1 1 0.784314 rgBT /Overl	1.9	0