Darrell Velegol

List of Publications by Year
in descending order

91 papers	10,470 citations	87723 38 h-index	48187 88 g-index
93 all docs	93 docs citations	93 times ranked	15716 citing authors

#	Article	IF	Citations
1	Gambling on Innovation. Industrial & Engineering Chemistry Research, 2021, 60, 7689-7699.	1.8	2
2	Sustainable energy corps: Building a global collaboration to accelerate transition to a low carbon world. Chemical Engineering Science: X, 2021, 10, 100099.	1.5	0
3	Motility of Enzyme-Powered Vesicles. Nano Letters, 2019, 19, 6019-6026.	4.5	52
4	Nonuniform Crowding Enhances Transport. ACS Nano, 2019, 13, 8946-8956.	7.3	15
5	7 Log Virus Removal in a Simple Functionalized Sand Filter. Environmental Science & Technology, 2019, 53, 12706-12714.	4.6	17
6	Digitally Coupled Learning and Innovation Processes. Industrial & Engineering Chemistry Research, 2019, 58, 22445-22455.	1.8	4
7	Shape-directed rotation of homogeneous micromotors via catalytic self-electrophoresis. Nature Communications, 2019, 10, 495.	5.8	108
8	Positive and negative chemotaxis of enzyme-coated liposome motors. Nature Nanotechnology, 2019, 14, 1129-1134.	15.6	152
9	<i>Moringa oleifera</i> Seed Protein Adsorption to Silica: Effects of Water Hardness, Fractionation, and Fatty Acid Extraction. Langmuir, 2018, 34, 4852-4860.	1.6	12
10	A Theory of Enzyme Chemotaxis: From Experiments to Modeling. Biochemistry, 2018, 57, 6256-6263.	1.2	51
11	Chemical Game Theory. Industrial & Engineering Chemistry Research, 2018, 57, 13593-13607.	1.8	9
12	Chemotaxis of Molecular Dyes in Polymer Gradients in Solution. Journal of the American Chemical Society, 2017, 139, 15588-15591.	6.6	28
13	Reactive micromixing eliminates fouling and concentration polarization in reverse osmosis membranes. Journal of Membrane Science, 2017, 542, 8-17.	4.1	39
14	Modeling the formation of 2,3,7,8-tetrachlorodibenzo-p-dioxin in the historical manufacture of 2,4,5-trichlorophenol. Environmental Forensics, 2017, 18, 307-317.	1.3	2
15	Modulation of Spatiotemporal Particle Patterning in Evaporating Droplets: Applications to Diagnostics and Materials Science. ACS Applied Materials & Interfaces, 2017, 9, 43352-43362.	4.0	21
16	Origins of concentration gradients for diffusiophoresis. Soft Matter, 2016, 12, 4686-4703.	1.2	241
17	Particle Zeta Potentials Remain Finite in Saturated Salt Solutions. Langmuir, 2016, 32, 11837-11844.	1.6	31
18	Self-Generated Electrokinetic Fluid Flows during Pseudomorphic Mineral Replacement Reactions. Langmuir, 2016, 32, 5233-5240.	1.6	13

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19	Boundaries can steer active Janus spheres. Nature Communications, 2015, 6, 8999.	5.8	290
20	Diffusiophoresis contributes significantly to colloidal fouling in low salinity reverse osmosis systems. Journal of Membrane Science, 2015, 479, 67-76.	4.1	33
21	Enhanced Transport into and out of Dead-End Pores. ACS Nano, 2015, 9, 746-753.	7.3	153
22	Multi-ion diffusiophoresis. Journal of Colloid and Interface Science, 2014, 424, 120-123.	5.0	51
23	Particle Deposition on Microporous Membranes Can Be Enhanced or Reduced by Salt Gradients. Langmuir, 2014, 30, 793-799.	1.6	32
24	Localized Electroosmosis (LEO) Induced by Spherical Colloidal Motors. Langmuir, 2014, 30, 2600-2607.	1.6	41
25	Polloidal Chains from Self-Assembly of Flattened Particles. Langmuir, 2013, 29, 10340-10345.	1.6	26
26	Understanding the Efficiency of Autonomous Nano- and Microscale Motors. Journal of the American Chemical Society, 2013, 135, 10557-10565.	6.6	230
27	Self-Assembly of Doublets from Flattened Polymer Colloids. Langmuir, 2012, 28, 4086-4094.	1.6	15
28	Antimicrobial Sand via Adsorption of Cationic Moringa oleifera Protein. Langmuir, 2012, 28, 2262-2268.	1.6	58
29	Self-Generated Diffusioosmotic Flows from Calcium Carbonate Micropumps. Langmuir, 2012, 28, 15491-15497.	1.6	88
30	Simple fabrication of snowman-like colloids. Journal of Colloid and Interface Science, 2012, 371, 28-33.	5.0	12
31	Scalable Manufacturing of Plasmonic Nanodisk Dimers and Cusp Nanostructures Using Salting-out Quenching Method and Colloidal Lithography. ACS Nano, 2011, 5, 5838-5847.	7.3	28
32	Maskless Fabrication of Nanowells Using Chemically Reactive Colloids. Nano Letters, 2011, 11, 672-676.	4.5	18
33	Sediments of soft spheres arranged by effectiveÂdensity. Nature Materials, 2011, 10, 716-721.	13.3	17
34	Microfactories for colloidal assemblies. AIChE Journal, 2010, 56, 564-569.	1.8	2
35	Prolonging Density Gradient Stability. Langmuir, 2010, 26, 4725-4731.	1.6	14
36	Magnetic Enhancement of Phototaxing Catalytic Motors. Langmuir, 2010, 26, 6308-6313.	1.6	60

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37	Controlled Flats on Spherical Polymer Colloids. Langmuir, 2010, 26, 7644-7649.	1.6	24
38	Functional colloidal trimers by quenched electrostatic assembly. Physical Chemistry Chemical Physics, 2010, 12, 11930.	1.3	4
39	Biomimetic behavior of synthetic particles: from microscopic randomness to macroscopic control. Physical Chemistry Chemical Physics, 2010, 12, 1423-1435.	1.3	173
40	Understanding biophysicochemical interactions at the nanoâ€“bio interface. Nature Materials, 2009, 8, 543-557.	13.3	6,046
41	In-solution assembly of colloidal water. Soft Matter, 2009, 5, 1263-1268.	1.2	33
42	Rayleighâ^'BÃ©nard Instability in Sedimentation. Industrial & Engineering Chemistry Research, 2009, 48, 2414-2421.	1.8	10
43	Fabrication of stable anisotropic microcapsules. Soft Matter, 2009, 5, 827.	1.2	25
44	Nanoscale van der Waals interactions. Molecular Simulation, 2009, 35, 849-866.	0.9	49
45	Chemo and phototactic nano/microbots. Faraday Discussions, 2009, 143, 15.	1.6	142
46	Localized Quorum Sensing in Vibrio fischeri. Colloids and Surfaces B: Biointerfaces, 2008, 62, 180-187.	2.5	9
47	Simple Fabrication of Metallic Colloidal Doublets Having Electrical Connectivity. Langmuir, 2008, 24, 4335-4339.	1.6	18
48	Design and Characterization of Randomly Speckled Spheres. Langmuir, 2008, 24, 7618-7622.	1.6	9
49	Van der Waals energy of a 1-dimensional lattice. Molecular Physics, 2008, 106, 1587-1596.	0.8	7
50	Chemotaxis of Nonbiological Colloidal Rods. Physical Review Letters, 2007, 99, 178103.	2.9	315
51	Localized Functionalization of Individual Colloidal Carriers for Cell Targeting and Imaging. Biomacromolecules, 2007, 8, 1958-1965.	2.6	15
52	Van der Waals Dispersion Forces between Dielectric Nanoclusters. Langmuir, 2007, 23, 1735-1740.	1.6	73
53	Site-Specific Functionalization on Individual Colloids:â€‰ Size Control, Stability, and Multilayers. Langmuir, 2007, 23, 9069-9075.	1.6	66
54	Force Measurements between Sub-100 nm Colloidal Particles. Langmuir, 2007, 23, 1275-1280.	1.6	10

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55	Assembling colloidal devices by controlling interparticle forces. Journal of Nanophotonics, 2007, 1, 012502.	0.4	29
56	Collagen Gel Anisotropy Measured by 2-D Laser Trap Microrheometry. Annals of Biomedical Engineering, 2007, 35, 1231-1246.	1.3	21
57	van der Waals forces between nanoclusters: Importance of many-body effects. Journal of Chemical Physics, 2006, 124, 074504.	1.2	57
58	Fabrication of Colloidal Doublets by a Salting Outâ˘'Quenchingâ˘'Fusing Technique. Langmuir, 2006, 22, 9135-9141.	1.6	46
59	Catalytically Driven Colloidal Patterning and Transport. Journal of Physical Chemistry B, 2006, 110, 24513-24521.	1.2	56
60	Transport of Rodlike Colloids through Packed Beds. Environmental Science & Technology, 2006, 40, 6336-6340.	4.6	64
61	Laser trap studies of end-on E. coli adhesion to glass. Colloids and Surfaces B: Biointerfaces, 2006, 50, 66-71.	2.5	18
62	Orientation of irreversible adhesion of spherical particles on prolate spheroidal collectors. Journal of Colloid and Interface Science, 2006, 299, 696-702.	5.0	1
63	Fully retarded van der Waals interaction between dielectric nanoclusters. Journal of Chemical Physics, 2006, 125, 174303.	1.2	7
64	The Design and Control of Catalytic Motors: Manipulating Colloids and Fluids with Self-Generated Forces. Materials Research Society Symposia Proceedings, 2006, 944, 1.	0.1	0
65	Charge nonuniformity light scattering. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 267, 79-85.	2.3	12
66	Nanoscale Functionalization and Site-Specific Assembly of Colloids by Particle Lithography. Langmuir, 2005, 21, 4813-4815.	1.6	96
67	Differences between Chemisorbed and Physisorbed Biomolecules on Particle Deposition to Hydrophobic Surfacesâ€. Environmental Science & Technology, 2005, 39, 6371-6377.	4.6	7
68	Limitations of Differential Electrophoresis for Measuring Colloidal Forces:â€‰ A Brownian Dynamics Study. Langmuir, 2005, 21, 10074-10081.	1.6	5
69	Catalytic Micropumps:Â Microscopic Convective Fluid Flow and Pattern Formation. Journal of the American Chemical Society, 2005, 127, 17150-17151.	6.6	150
70	Designing van der Waals Forces between Nanocolloids. Nano Letters, 2005, 5, 169-173.	4.5	40
71	E. coli adhesion to silica in the presence of humic acid. Colloids and Surfaces B: Biointerfaces, 2004, 39, 45-51.	2.5	39
72	Importance of Molecular Details in Predicting Bacterial Adhesion to Hydrophobic Surfaces. Langmuir, 2004, 20, 10625-10629.	1.6	65

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73	Altering Surface Charge Nonuniformity on Individual Colloidal Particles. Langmuir, 2004, 20, 3090-3095.	1.6	66
74	Reducing Surface Charge Nonuniformity on Individual Particles through Annealing. Industrial & Engineering Chemistry Research, 2004, 43, 3478-3483.	1.8	3
75	Brownian sampling in an unbounded space. Journal of Colloid and Interface Science, 2004, 274, 334-336.	5.0	0
76	Evaluating Randomness of Charge Distribution on Colloidal Particles Using Stationary Electrophoresis Angles. Langmuir, 2003, 19, 4592-4596.	1.6	4
77	AFM Imaging Artifacts due to Bacterial Cell Height and AFM Tip Geometry. Langmuir, 2003, 19, 851-857.	1.6	94
78	Force Measurements between Colloidal Particles of Identical Zeta Potentials Using Differential Electrophoresis. Langmuir, 2003, 19, 4090-4095.	1.6	13
79	Oriented Adhesion of Escherichia coli to Polystyrene Particles. Applied and Environmental Microbiology, 2003, 69, 6515-6519.	1.4	69
80	Three-body interactions involving clusters and films. Physical Review B, 2003, 68, .	1.1	13
81	Measurements of Charge Nonuniformity on Polystyrene Latex Particles. Langmuir, 2002, 18, 3454-3458.	1.6	74
82	Force Measurements between Weakly Attractive Polystyrene Particles. Langmuir, 2002, 18, 7328-7333.	1.6	17
83	Electrophoresis of randomly charged particles. Electrophoresis, 2002, 23, 2023.	1.3	11
84	Cell Traction Forces on Soft Biomaterials. I. Microrheology of Type I Collagen Gels. Biophysical Journal, 2001, 81, 1786-1792.	0.2	131
85	Analytical Model for the Effect of Surface Charge Nonuniformity on Colloidal Interactions. Langmuir, 2001, 17, 7687-7693.	1.6	86
86	Measuring Particle Diameter and Particleâˆ'Particle Gap with Nanometer Precision Using an Optical Microscope. Industrial & Engineering Chemistry Research, 2001, 40, 3042-3047.	1.8	3
87	Electrophoresis of Spherical Particles with a Random Distribution of Zeta Potential or Surface Charge. Journal of Colloid and Interface Science, 2000, 230, 114-121.	5.0	37
88	Measuring Colloidal Forces Using Differential Electrophoresis. Langmuir, 2000, 16, 3372-3384.	1.6	20
89	Electrophoresis of Spheroidal Particles Having a Random Distribution of Zeta Potential. Langmuir, 2000, 16, 10315-10321.	1.6	44
90	Determining the Forces between Polystyrene Latex Spheres Using Differential Electrophoresis. Langmuir, 1996, 12, 4103-4110.	1.6	43

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91	Probing the Structure of Colloidal Doublets by Electrophoretic Rotation. Langmuir, 1996, 12, 675-685.	1.6	34