Daniel A Higgins

List of Publications by Year
in descending order

111 papers	3,158 citations	186265 28 h-index	189892 50 g-index
113 all docs	113 docs citations	113 times ranked	2742 citing authors

#	Article	IF	Citations
1	Optical second harmonic generation as a probe of surface chemistry. Chemical Reviews, 1994, 94, 107-125.	47.7	551
2	A Molecular Yarn:Â Near-Field Optical Studies of Self-Assembled, Flexible, Fluorescent Fibers. Journal of the American Chemical Society, 1996, 118, 4049-4058.	13.7	128
3	Characterization of Molecular Scale Environments in Polymer Films by Single Molecule Spectroscopy. Journal of Physical Chemistry B, 2000, 104, 212-219.	2.6	103
4	Near-Field Optical Studies of Thin-Film Mesostructured Organic Materials. Accounts of Chemical Research, 1997, 30, 204-212.	15.6	91
5	Optical second-harmonic generation measurements of molecular adsorption and orientation at the liquid/liquid electrochemical interface. Journal of the Chemical Society, Faraday Transactions, 1995, 91, 1411.	1.7	88
6	Characterization of Porous Materials by Fluorescence Correlation Spectroscopy Super-resolution Optical Fluctuation Imaging. ACS Nano, 2015, 9, 9158-9166.	14.6	80
7	Resonant second harmonic generation studies of p-nitrophenol adsorption at condensed-phase interfaces. Langmuir, 1992, 8, 1994-2000.	3.5	79
8	Observation of photoinduced electron transfer at a liquid-liquid interface by optical second harmonic generation. Journal of the American Chemical Society, 1993, 115, 5342-5343.	13.7	73
9	Single Molecule Spectroscopy Studies of Diffusion in Mesoporous Silica Thin Films. Journal of Physical Chemistry B, 2006, 110, 9164-9170.	2.6	72
10	Second harmonic generation measurements of molecular orientation and coadsorption at the interface between two immiscible electrolyte solutions. Chemical Physics Letters, 1993, 213, 485-490.	2.6	55
11	What can be learned from single molecule spectroscopy? Applications to solâ€“gel-derived silica materials. Physical Chemistry Chemical Physics, 2009, 11, 66-82.	2.8	52
12	Single-Molecule Investigations of Morphology and Mass Transport Dynamics in Nanostructured Materials. Annual Review of Analytical Chemistry, 2015, 8, 193-216.	5.4	50
13	Microheterogeneity in Dye-Doped Silicate and Polymer Films. Journal of Physical Chemistry B, 1998, 102, 7231-7237.	2.6	48
14	Nanoscale Properties and Matrixâ^'Dopant Interactions in Dye-Doped Organically Modified Silicate Thin Films. Chemistry of Materials, 2001, 13, 2713-2721.	6.7	48
15	Toroidal Droplet Formation in Polymer-Dispersed Liquid Crystal Films. Journal of the American Chemical Society, 2000, 122, 6801-6802.	13.7	41
16	Single Molecule Studies of Dynamics in Polymer Thin Films and at Surfaces:Â Effect of Ambient Relative Humidity. Journal of Physical Chemistry B, 2002, 106, 10306-10315.	2.6	41
17	Optical Microscopy Studies of Dynamics within Individual Polymer-Dispersed Liquid Crystal Droplets. Accounts of Chemical Research, 2005, 38, 137-145.	15.6	41
18	Single-Molecule Spectroscopic Studies of Nanoscale Heterogeneity in Organically Modified Silicate Thin Films. Chemistry of Materials, 2002, 14, 3734-3744.	6.7	40

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19	Single-Molecule Studies of Diffusion by Oligomer-Bound Dyes in Organically Modified Solâ"Gel-Derived Silicate Films. Analytical Chemistry, 2005, 77, 486-494.	6.5	40
20	Single-Molecule Studies of Solâ"Gel-Derived Silicate Films. Microenvironments and Film-Drying Conditions. Journal of Physical Chemistry B, 2000, 104, 9973-9980.	2.6	39
21	Trajectory angle determination in one dimensional single molecule tracking data by orthogonal regression analysis. Physical Chemistry Chemical Physics, 2011, 13, 1827.	2.8	39
22	Multiple Diffusion Pathways in Pluronic F127 Mesophases Revealed by Single Molecule Tracking and Fluorescence Correlation Spectroscopy. Journal of Physical Chemistry B, 2011, 115, 12736-12743.	2.6	36
23	Electrodeposited Silicate Films:â€‰ Importance of Supporting Electrolyte. Analytical Chemistry, 2008, 80, 651-656.	6.5	35
24	Single-Molecule Tracking Studies of Millimeter-Scale Cylindrical Domain Alignment in Polystyreneâ€"Poly(ethylene oxide) Diblock Copolymer Films Induced by Solvent Vapor Penetration. Journal of Physical Chemistry Letters, 2012, 3, 1968-1973.	4.6	35
25	Templated Droplets and Ordered Arrays in Polymer-Dispersed Liquid-Crystal Films. Chemistry of Materials, 2001, 13, 2281-2287.	6.7	34
26	Single-Molecule Spectroscopy Studies of Microenvironmental Acidity in Silicate Thin Films. Journal of the American Chemical Society, 2004, 126, 13838-13844.	13.7	30
27	Following Single Molecules to a Better Understanding of Self-Assembled One-Dimensional Nanostructures. Journal of Physical Chemistry Letters, 2013, 4, 3095-3103.	4.6	30
28	Polymer-Dispersed Liquid Crystal Films Studied by Near-Field Scanning Optical Microscopy. Langmuir, 1998, 14, 1945-1950.	3.5	29
29	Aminoalkoxysilane Reactivity in Surface Amine Gradients Prepared by Controlled-Rate Infusion. Langmuir, 2012, 28, 16091-16098.	3.5	28
30	Electrokinetic trapping using titania nanoporous membranes fabricated using solâ€"gel chemistry on microfluidic devices. Electrophoresis, 2009, 30, 3160-3167.	2.4	26
31	Profile Control in Surface Amine Gradients Prepared by Controlled-Rate Infusion. Langmuir, 2011, 27, 1867-1873.	3.5	26
32	Formation of Self-Organized Nanoporous Anodic Oxide from Metallic Gallium. Langmuir, 2012, 28, 13705-13711.	3.5	26
33	Nanoplatforms for highly sensitive fluorescence detection of cancer-related proteases. Photochemical and Photobiological Sciences, 2014, 13, 231-240.	2.9	25
34	Fluorescence Recovery after Photobleaching and Single-Molecule Tracking Measurements of Anisotropic Diffusion within Identical Regions of a Cylinder-Forming Diblock Copolymer Film. Analytical Chemistry, 2015, 87, 5802-5809.	6.5	25
35	Spectroscopic and Polarization-Dependent Single-Molecule Tracking Reveal the One-Dimensional Diffusion Pathways in Surfactant-Templated Mesoporous Silica. Journal of Physical Chemistry C, 2016, 120, 715-723.	3.1	25
36	Probing Chemical Interactions at the Single-Molecule Level in Mesoporous Silica Thin Films. Journal of Physical Chemistry C, 2007, 111, 6772-6780.	3.1	24

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37	Single-Molecule Perspective on Mass Transport in Condensed Water Layers over Gradient Self-Assembled Monolayers. Journal of Physical Chemistry C, 2015, 119, 9418-9428.	3.1	24
38	Molecular Combing of Î»-DNA using Self-Propelled Water Droplets on Wettability Gradient Surfaces. ACS Applied Materials & Interfaces, 2016, 8, 24265-24272.	8.0	24
39	Optical Microscopic Techniques for Synthetic Polymer Characterization. Analytical Chemistry, 2019, 91, 405-424.	6.5	24
40	Near-Field Scanning Optical Microscopy Studies of Electric-Field-Induced Molecular Reorientation Dynamics. Journal of Physical Chemistry A, 1998, 102, 7558-7563.	2.5	23
41	Nanometer-scale resolution and depth discrimination in near-field optical microscopy studies of electric-field-induced molecular reorientation dynamics. Journal of Chemical Physics, 2000, 112, 7839-7847.	3.0	22
42	Simultaneous Near-Field Optical Birefringence and Fluorescence Contrast Applied to the Study of Dye-Doped Polymer-Dispersed Liquid Crystals. Journal of Physical Chemistry B, 2001, 105, 5874-5882.	2.6	22
43	Watching molecules reorient in liquid crystal droplets with multiphoton-excited fluorescence microscopy. Journal of Chemical Physics, 2003, 119, 3935-3942.	3.0	22
44	Single Molecule Wobbling in Cylindrical Mesopores. Journal of Physical Chemistry C, 2013, 117, 3668-3673.	3.1	21
45	Early breast cancer screening using iron/iron oxide-based nanoplatforms with sub-femtomolar limits of detection. Beilstein Journal of Nanotechnology, 2016, 7, 364-373.	2.8	21
46	Imaging fluorescence correlation spectroscopy studies of dye diffusion in self-assembled organic nanotubes. Physical Chemistry Chemical Physics, 2016, 18, 16766-16774.	2.8	21
47	Multiphoton-Excited Fluorescence Imaging and Photochemical Modification of Dye-Doped Polystyrene Microsphere Arrays. Chemistry of Materials, 2000, 12, 1372-1377.	6.7	20
48	Electric-field-induced dynamics in radial liquid crystal droplets studied by multiphoton-excited fluorescence microscopy. Applied Physics Letters, 2004, 84, 4014-4016.	3.3	20
49	Preparation and Characterization of Nanofibrous Perylene-Diimideâ^'Polyelectrolyte Composite Thin Films. Chemistry of Materials, 2006, 18, 5937-5943.	6.7	20
50	Fluorescence Spectroscopy Studies of Silica Film Polarity Gradients Prepared by Infusion-Withdrawal Dip-Coating. Chemistry of Materials, 2010, 22, 2970-2977.	6.7	20
51	Continuous stationary phase gradients for planar chromatographic media. Journal of Chromatography A, 2011, 1218, 9406-9413.	3.7	20
52	Single-Molecule Spectroscopic Imaging Studies of Polarity Gradients Prepared by Infusion-Withdrawal Dip-Coating. Journal of Physical Chemistry C, 2014, 118, 6423-6432.	3.1	20
53	Molecular Length Dependence of Single Molecule Wobbling within Surfactant- and Solvent-Filled Silica Mesopores. Journal of Physical Chemistry C, 2013, 117, 15438-15446.	3.1	19
54	High-resolution direct-write multiphoton photolithography in poly(methylmethacrylate) films. Applied Physics Letters, 2006, 88, 184101.	3.3	18

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55	Nanoconfinement and Mass Transport in Silica Mesopores: the Role of Charge at the Single Molecule and Single Pore Levels. Analytical Chemistry, 2020, 92, 1416-1423.	6.5	18
56	Single Molecule Tracking Studies of Flow-Aligned Mesoporous Silica Monoliths: Aging-Time Dependence of Pore Order. Journal of Physical Chemistry B, 2013, 117, 4222-4230.	2.6	17
57	Cooperative Effects in Aligned and Opposed Multicomponent Charge Gradients Containing Strongly Acidic, Weakly Acidic, and Basic Functional Groups. Langmuir, 2016, 32, 3836-3847.	3.5	17
58	Spectroscopic imaging studies of nanoscale polarity and mass transport phenomena in self-assembled organic nanotubes. Physical Chemistry Chemical Physics, 2017, 19, 20040-20048.	2.8	17
59	Local dynamics in polymer-dispersed liquid crystals studied by near-field scanning optical microscopy. Applied Physics Letters, 1998, 73, 3515-3517.	3.3	16
60	Gaining Insight into the Nanoscale Properties of Solâ˜Gel-Derived Silicate Thin Films by Single-Molecule Spectroscopy. Langmuir, 2005, 21, 9023-9031.	3.5	16
61	Amine-phenyl multi-component gradient stationary phases. Journal of Chromatography A, 2015, 1410, 190-199.	3.7	16
62	Separation of transition and heavy metals using stationary phase gradients and thin layer chromatography. Journal of Chromatography A, 2016, 1446, 141-148.	3.7	16
63	Molecular Orientation and Its Influence on Autocorrelation Amplitudes in Single-Molecule Imaging Experiments. Analytical Chemistry, 2007, 79, 6465-6472.	6.5	15
64	Direct-Write Multiphoton Photolithography:â€‰ A Systematic Study of the Etching Behaviors in Various Commercial Polymers. Langmuir, 2007, 23, 12406-12412.	3.5	15
65	Self-Assembled Photoactive Polyelectrolyte/Perylene-Diimide Composites. Langmuir, 2005, 21, 4149-4155.	3.5	14
66	Single-Molecule Tracking Studies of Flow-Induced Microdomain Alignment in Cylinder-Forming Polystyreneâ€“Poly(ethylene oxide) Diblock Copolymer Films. Journal of Physical Chemistry B, 2014, 118, 11406-11415.	2.6	14
67	Base Layer Influence on Protonated Aminosilane Gradient Wettability. Langmuir, 2017, 33, 4207-4215.	3.5	14
68	Organosilane Chemical Gradients: Progress, Properties, and Promise. Langmuir, 2017, 33, 13719-13732.	3.5	14
69	Electric-field-induced ion migration in polymer-dispersed liquid- crystal films observed by near-field scanning optical microscopy. Applied Physics Letters, 1999, 75, 430-432.	3.3	13
70	(Role) Playing Politics in an Environmental Chemistry Lecture Course. Journal of Chemical Education, 2007, 84, 241.	2.3	13
71	Aggregation and Its Influence on Macroscopic In-Plane Organization in Thin Films of Electrostatically Self-Assembled Perylene-Diimide/Polyelectrolyte Nanofibers. Langmuir, 2009, 25, 1188-1195.	3.5	13
72	Chelation Gradients for Investigation of Metal Ion Binding at Silica Surfaces. Langmuir, 2014, 30, 10019-10027.	3.5	13

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73	Single-Molecule Studies of Oligomer Extraction and Uptake of Dyes in Poly(dimethylsiloxane) Films. Analytical Chemistry, 2009, 81, 10089-10096.	6.5	12
74	Spatiotemporal Evolution of Fixed and Mobile Dopant Populations in Silica Thin-Film Gradients as Revealed by Single Molecule Tracking. Journal of Physical Chemistry C, 2011, 115, 728-735.	3.1	12
75	Single-Molecule Studies of Acidity Distributions in Mesoporous Aluminosilicate Thin Films. Langmuir, 2015, 31, 5667-5675.	3.5	12
76	Synchrotron infrared microspectroscopy reveals localized heterogeneities in an organically modified silicate film. Vibrational Spectroscopy, 2004, 35, 153-158.	2.2	11
77	Single Molecule Catch and Release: Potential-Dependent Plasmid DNA Adsorption along Chemically Graded Electrode Surfaces. Langmuir, 2017, 33, 8651-8662.	3.5	11
78	Influences of Hydrogen Bonding-Based Stabilization of Bolaamphiphile Layers on Molecular Diffusion within Organic Nanotubes Having Inner Carboxyl Groups. Langmuir, 2020, 36, 6145-6153.	3.5	11
79	Dysregulation of the AP2M1 phosphorylation cycle by LRRK2 impairs endocytosis and leads to dopaminergic neurodegeneration. Science Signaling, 2021, 14, .	3.6	11
80	Enhanced Photorefractivity from Ion-Doped Polymer-Dispersed Liquid Crystals. Journal of Physical Chemistry B, 2004, 108, 16050-16055.	2.6	10
81	Phase Separation in Class II Organically Modified Silicate Films As Probed by Phase-Imaging Atomic Force Microscopy. Langmuir, 2005, 21, 6137-6141.	3.5	10
82	Grayscale Patterning of Polymer Thin Films with Nanometer Precision by Direct-Write Multiphoton Photolithography. Langmuir, 2008, 24, 8939-8943.	3.5	10
83	Electrostatic Self-Assembly of Ordered Perylene-Diimide/Polyelectrolyte Nanofibers in Fluidic Devices: from Nematic Domains to Macroscopic Alignment. Langmuir, 2009, 25, 13045-13051.	3.5	10
84	Fluorescence Quenching Studies of Potential-Dependent DNA Reorientation Dynamics at Glassy Carbon Electrode Surfaces. Journal of the American Chemical Society, 2012, 134, 14467-14475.	13.7	10
85	Dimensionality of Diffusion in Flow-Aligned Surfactant-Templated Mesoporous Silica: A Single Molecule Tracking Study of Pore Wall Permeability. Journal of Physical Chemistry C, 2015, 119, 26101-26110.	3.1	10
86	pH and Surface Charge Switchability on Bifunctional Charge Gradients. Langmuir, 2018, 34, 663-672.	3.5	10
87	Trajectory-Profile-Guided Single Molecule Tracking for Assignment of One-Dimensional Diffusion Trajectories. Analytical Chemistry, 2014, 86, 10820-10827.	6.5	9
88	Single-Molecule Tracking Study of the Permeability and Transverse Width of Individual Cylindrical Microdomains in Solvent-Swollen Polystyrene-block-poly(ethylene oxide) Films. Journal of Physical Chemistry B, 2016, 120, 12177-12183.	2.6	9
89	Diffusion Behavior of Differently Charged Molecules in Self-Assembled Organic Nanotubes Studied Using Imaging Fluorescence Correlation Spectroscopy. Langmuir, 2019, 35, 7783-7790.	3.5	9
90	Direct method for monitoring two-beam coupling in photorefractive materials. Review of Scientific Instruments, 2002, 73, 2103-2107.	1.3	8

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91	Elongation, Alignment, and Guided Electrophoretic Migration of ds-DNA in Flow-Aligned Hexagonal F127 Gels. Journal of Physical Chemistry B, 2014, 118, 4151-4159.	2.6	8
92	Investigation of Charge Transfer Interactions in CdSe Nanorod P3HT/PMMA Blends by Optical Microscopy. Journal of Physical Chemistry C, 2012, 116, 3153-3160.	3.1	7
93	Near-Field Scanning Optical Microscopy Studies of a Fluorescent Polyelectrolyteâ^'Surfactant Complex. Langmuir, 2001, 17, 6051-6055.	3.5	6
94	Exploring the Photorefractive Effect in Polymer-Dispersed Liquid Crystals Using Near-Field Scanning Optical Microscopy. Journal of Physical Chemistry B, 2003, 107, 14211-14218.	2.6	6
95	Following the Growth Process in Macroporous Methylsilsesquioxane Films at the Single Macropore Level by Confocal Correlation Spectroscopy. Chemistry of Materials, 2007, 19, 6528-6535.	6.7	6
96	Single Molecule Studies of Solvent-Dependent Diffusion and Entrapment in Poly(dimethylsiloxane) Thin Films. Analytical Chemistry, 2008, 80, 9726-9734.	6.5	6
97	Direct Synthesis of Aqueous Quantum Dots through 4,4â€²-Bipyridine-Based Twin Ligand Strategy. Inorganic Chemistry, 2012, 51, 4521-4526.	4.0	6
98	Fabrication of Surface Charge Gradients in Open-Tubular Capillaries and Their Characterization by Spatially Resolved Pulsed Streaming Potential Measurements. Langmuir, 2013, 29, 15260-15265.	3.5	6
99	Probing the Local Dielectric Constant of Plasmid DNA in Solution and Adsorbed on Chemically Graded Aminosilane Surfaces. Journal of Physical Chemistry B, 2018, 122, 2307-2313.	2.6	5
100	Scanning Probe Microscopy Studies of Mesostructured Nonstoichiometric Polyelectrolyteâ^'Surfactant Complexes. Langmuir, 2002, 18, 6259-6265.	3.5	4
101	Fluorescence Microscopic Investigations of Molecular Dynamics in Selfâ€Assembled Nanostructures. Chemical Record, 2021, 21, 1417-1429.	5.8	4
102	Investigation of Molecular Diffusion at Block Copolymer Thin Films Using Maximum Entropy Method-Based Fluorescence Correlation Spectroscopy and Single Molecule Tracking. Journal of Fluorescence, 0, , .	2.5	4
103	Vapor-Phase Plotting of Organosilane Chemical Gradients. Langmuir, 2018, 34, 9665-9672.	3.5	3
104	Exploring Microenvironment Acidity Inside the Solvent-Filled Pores of Mesoporous Silica Thin Films via Single-Molecule Spectroscopy. Journal of Physical Chemistry C, 2019, 123, 20333-20341.	3.1	3
105	Single Molecule Spectroscopy Studies of Acidâ€“Base Chemical Gradients Using Nile Red as a Probe of Local Surface Acidity. Langmuir, 2021, 37, 12138-12147.	3.5	3
106	Optics up close and personal. Nature Materials, 2002, 1, 83-85.	27.5	2
107	Novel Optical Probes for Advanced Chemical Imaging. Analytical Chemistry, 2011, 83, 8048-8049.	6.5	2
108	Investigation of Fluorescence Emission from CdSe Nanorods in PMMA and P3HT/PMMA Films. Journal of Physical Chemistry C, 2013, 117, 18818-18828.	3.1	2

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109	On the Importance of Silane Infusion Order on the Microscopic and Macroscopic Properties of Multifunctional Charge Gradients. ACS Omega, 2020, 5, 21897-21905.	3.5	2
110	Exploring Dynamics in Photorefractive Polymer-Dispersed Liquid Crystals Using Near-Field Scanning Optical Microscopy. ACS Symposium Series, 2005, , 25-37.	0.5	1
111	Fluorescence spectroscopy studies of crossed aldol reactions: a reactive Nile red dye reveals catalyst-dependent product formation. Catalysis Science and Technology, 2020, 10, 5579-5592.	4.1	1