# Charles Patrick Collier

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/6318822/publications.pdf

Version: 2024-02-01

| | | | |
|---|---|---|---|
| 113 papers | 10,799 citations | 100601<br>38 h-index | 34195<br>103 g-index |
| 129 all docs | 129 docs citations | 129 times ranked | 10695 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Droplet Evaporation on Hot Micro-Structured Superhydrophobic Surfaces: Analysis of Evaporation from Droplet Cap and Base Surfaces. International Journal of Heat and Mass Transfer, 2022, 185, 122314. | 2.5 | 15 |
| 2 | Ion Pairing and Molecular Orientation at Liquid/Liquid Interfaces: Self-Assembly and Function. Journal of Physical Chemistry B, 2022, 126, 2316-2323. | 1.2 | 12 |
| 3 | Squeezing Out Interfacial Solvation: The Role of Hydrogen-Bonding in the Structural and Orientational Freedom of Molecular Self-Assembly. Journal of Physical Chemistry Letters, 2022, 13, 2273-2280. | 2.1 | 7 |
| 4 | Disentangling Memristive and Memcapacitive Effects in Droplet Interface Bilayers Using Dynamic Impedance Spectroscopy. Advanced Electronic Materials, 2022, 8, . | 2.6 | 9 |
| 5 | Gold Ion Beam Milled Gold Zero-Mode Waveguides. Nanomaterials, 2022, 12, 1755. | 1.9 | 2 |
| 6 | Absolute quantitation of propranolol from 200â€Î¼m regions of mouse brain and liver thin tissues using laser ablationâ€dropletProbeâ€mass spectrometry. Rapid Communications in Mass Spectrometry, 2021, 35, e9010. | 0.7 | 4 |
| 7 | Photoluminescence Enhancement, Blinking Suppression, and Improved Biexciton Quantum Yield of Single Quantum Dots in Zero Mode Waveguides. Journal of Physical Chemistry Letters, 2021, 12, 3303-3311. | 2.1 | 8 |
| 8 | Harnessing autocatalytic reactions in polymerization and depolymerization. MRS Communications, 2021, 11, 377-390. | 0.8 | 4 |
| 9 | Ion Pairing Mediates Molecular Organization Across Liquid/Liquid Interfaces. ACS Applied Materials & Interfaces, 2021, 13, 33734-33743. | 4.0 | 13 |
| 10 | Integrated laser ablationâ€dropletProbeâ€mass spectrometry for absolute drug quantitation, metabolite detection, and distribution in tissue. Rapid Communications in Mass Spectrometry, 2021, 35, e9202. | 0.7 | 0 |
| 11 | Insight into the Mechanisms Driving the Self-Assembly of Functional Interfaces: Moving from Lipids to Charged Amphiphilic Oligomers. Journal of the American Chemical Society, 2020, 142, 290-299. | 6.6 | 27 |
| 12 | Macromolecular Crowding Affects Voltage-Dependent Alamethicin Pore Formation in Lipid Bilayer Membranes. Journal of Physical Chemistry B, 2020, 124, 5095-5102. | 1.2 | 7 |
| 13 | Evaporation of squeezed water droplets between two parallel hydrophobic/superhydrophobic surfaces. Journal of Colloid and Interface Science, 2020, 576, 127-138. | 5.0 | 13 |
| 14 | Mixed metal zero-mode guides (ZMWs) for tunable fluorescence enhancement. Nanoscale Advances, 2020, 2, 1894-1903. | 2.2 | 7 |
| 15 | Electrophysiological interrogation of asymmetric droplet interface bilayers reveals surface-bound alamethicin induces lipid flip-flop. Biochimica Et Biophysica Acta - Biomembranes, 2019, 1861, 335-343. | 1.4 | 35 |
| 16 | Peptide-Induced Lipid Flip-Flop in Asymmetric Liposomes Measured by Small Angle Neutron Scattering. Langmuir, 2019, 35, 11735-11744. | 1.6 | 41 |
| 17 | Dynamical nonlinear memory capacitance in biomimetic membranes. Nature Communications, 2019, 10, 3239. | 5.8 | 51 |
| 18 | Deciphering Melatonin-Stabilized Phase Separation in Phospholipid Bilayers. Langmuir, 2019, 35, 12236-12245. | 1.6 | 25 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Loss of carotenoids from membranes of Pantoea sp. YR343 results in altered lipid composition and changes in membrane biophysical properties. Biochimica Et Biophysica Acta - Biomembranes, 2019, 1861, 1338-1345. | 1.4 | 14 |
| 20 | Self-Stabilizing Transpiration in Synthetic Leaves. ACS Applied Materials & Interfaces, 2019, 11, 13768-13776. | 4.0 | 14 |
| 21 | Geometryâ€Dependent Nonequilibrium Steadyâ€State Diffusion and Adsorption of Lipid Vesicles in Micropillar Arrays. Advanced Materials Interfaces, 2019, 6, 1900054. | 1.9 | 2 |
| 22 | Assembly and Characterization of Biomolecular Memristors Consisting of Ion Channel-doped Lipid Membranes. Journal of Visualized Experiments, 2019, , . | 0.2 | 6 |
| 23 | Evaporation-induced monolayer compression improves droplet interface bilayer formation using unsaturated lipids. Biomicrofluidics, 2018, 12, 024101. | 1.2 | 21 |
| 24 | Macromolecular Crowding Induces Spatial Correlations That Control Gene Expression Bursting Patterns. ACS Synthetic Biology, 2018, 7, 1251-1258. | 1.9 | 34 |
| 25 | Memristive Ion Channel-Doped Biomembranes as Synaptic Mimics. ACS Nano, 2018, 12, 4702-4711. | 7.3 | 107 |
| 26 | A Soft-Matter Biomolecular Memristor Synapse for Neuromorphic Systems. , 2018, , . | | 6 |
| 27 | Response of a Memristive Biomembrane and Demonstration of Potential Use in Online Learning. , 2018, , . | | 4 |
| 28 | Biomimetic, Soft-Material Synapse for Neuromorphic Computing: from Device to Network. , 2018, , . | | 14 |
| 29 | Capacitive Detection of Low-Enthalpy, Higher-Order Phase Transitions in Synthetic and Natural Lipid Membranes. Biophysical Journal, 2018, 114, 551a-552a. | 0.2 | 0 |
| 30 | Passive Antifrosting Surfaces Using Microscopic Ice Patterns. ACS Applied Materials & Interfaces, 2018, 10, 32874-32884. | 4.0 | 61 |
| 31 | Flexible approach to vibrational sum-frequency generation using shaped near-infrared light. Optics Letters, 2018, 43, 2038. | 1.7 | 34 |
| 32 | Low-Enthalpy Phase Transitions Yield Entropy-Driven Lateral Reorganization and Phase Separation in Synthetic and Natural Multi-Component DIB Membranes. Biophysical Journal, 2017, 112, 84a. | 0.2 | 0 |
| 33 | Capacitive Detection of Low-Enthalpy, Higher-Order Phase Transitions in Synthetic and Natural Composition Lipid Membranes. Langmuir, 2017, 33, 10016-10026. | 1.6 | 27 |
| 34 | Tuning Superhydrophobic Nanostructures To Enhance Jumping-Droplet Condensation. ACS Nano, 2017, 11, 8499-8510. | 7.3 | 185 |
| 35 | Synthetic Biology in Aqueous Compartments at the Micro- and Nanoscale. MRS Advances, 2017, 2, 2427-2433. | 0.5 | 5 |
| 36 | Real-Time Sensing of Single-Ligand Delivery with Nanoaperture-Integrated Microfluidic Devices. ACS Omega, 2017, 2, 3858-3867. | 1.6 | 9 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Synapse-Inspired Variable Conductance in Biomembranes: A Preliminary Study. , 2017, , . | | 0 |
| 38 | Dynamic Defrosting on Scalable Superhydrophobic Surfaces. ACS Applied Materials & Interfaces, 2017, 9, 24308-24317. | 4.0 | 42 |
| 39 | Resource Sharing Controls Gene Expression Bursting. ACS Synthetic Biology, 2017, 6, 334-343. | 1.9 | 30 |
| 40 | Hydrodynamic trapping for rapid assembly and in situ electrical characterization of droplet interface bilayer arrays. Lab on A Chip, 2016, 16, 3576-3588. | 3.1 | 39 |
| 41 | A Comparison of Single-Molecule Emission in Aluminum and Gold Zero-Mode Waveguides. Journal of Physical Chemistry A, 2016, 120, 6719-6727. | 1.1 | 22 |
| 42 | Controlling condensation and frost growth with chemical micropatterns. Scientific Reports, 2016, 6, 19131. | 1.6 | 111 |
| 43 | Sealable Femtoliter Chamber Arrays for Cell-free Biology. Journal of Visualized Experiments, 2015, , . | 0.2 | 6 |
| 44 | Adsorption Kinetics Dictate Monolayer Self-Assembly for Both Lipid-In and Lipid-Out Approaches to Droplet Interface Bilayer Formation. Langmuir, 2015, 31, 12883-12893. | 1.6 | 58 |
| 45 | Control of Membrane Permeability in Air-Stable Droplet Interface Bilayers. Langmuir, 2015, 31, 4224-4231. | 1.6 | 8 |
| 46 | Self-propelled sweeping removal of dropwise condensate. Applied Physics Letters, 2015, 106, . | 1.5 | 95 |
| 47 | Direct in situ measurement of specific capacitance, monolayer tension, and bilayer tension in a droplet interface bilayer. Soft Matter, 2015, 11, 7592-7605. | 1.2 | 85 |
| 48 | Bilayer membrane interactions with nanofabricated scaffolds. Chemistry and Physics of Lipids, 2015, 192, 75-86. | 1.5 | 5 |
| 49 | Length Scale Selects Directionality of Droplets on Vibrating Pillar Ratchet. Advanced Materials Interfaces, 2014, 1, 1400337. | 1.9 | 16 |
| 50 | Dynamic morphologies of microscale droplet interface bilayers. Soft Matter, 2014, 10, 2530. | 1.2 | 23 |
| 51 | Air-stable droplet interface bilayers on oil-infused surfaces. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 7588-7593. | 3.3 | 125 |
| 52 | Asymmetric Wettability of Nanostructures Directs Leidenfrost Droplets. ACS Nano, 2014, 8, 860-867. | 7.3 | 72 |
| 53 | The effect of retinal pigment epithelial cell patch size on growth factor expression. Biomaterials, 2014, 35, 3999-4004. | 5.7 | 13 |
| 54 | Length scale of Leidenfrost ratchet switches droplet directionality. Nanoscale, 2014, 6, 9293-9299. | 2.8 | 35 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | Dynamic Defrosting on Nanostructured Superhydrophobic Surfaces. Langmuir, 2013, 29, 9516-9524. | 1.6 | 158 |
| 56 | Dewetting Transitions on Superhydrophobic Surfaces: When Are Wenzel Drops Reversible?. Journal of Physical Chemistry C, 2013, 117, 18084-18090. | 1.5 | 41 |
| 57 | Bilayer self-assembly on a hydrophilic, deterministically nanopatterned surface. Nano Research, 2013, 6, 784-794. | 5.8 | 3 |
| 58 | Developing in vitro models of the sub-retinal microenvironment. , 2013, , . | | 0 |
| 59 | Delayed Frost Growth on Jumping-Drop Superhydrophobic Surfaces. ACS Nano, 2013, 7, 1618-1627. | 7.3 | 485 |
| 60 | Single-molecule mobility in confined and crowded femtolitre chambers. Lab on A Chip, 2013, 13, 877. | 3.1 | 18 |
| 61 | Aqueous two-phase microdroplets with reversible phase transitions. Lab on A Chip, 2013, 13, 1295. | 3.1 | 23 |
| 62 | Probing Cell-Free Gene Expression Noise in Femtoliter Volumes. ACS Synthetic Biology, 2013, 2, 497-505. | 1.9 | 42 |
| 63 | Evaporation-Induced Buckling and Fission of Microscale Droplet Interface Bilayers. Journal of the American Chemical Society, 2013, 135, 5545-5548. | 6.6 | 23 |
| 64 | Monodisperse alginate microgel formation in a three-dimensional microfluidic droplet generator. Biomicrofluidics, 2012, 6, 44108. | 1.2 | 38 |
| 65 | Towards the World Smallest Chemical Reactors: On-Demand Generation and Fusion of Femtoliter Aqueous Droplets. Biophysical Journal, 2011, 100, 607a. | 0.2 | 0 |
| 66 | Interfacial Tension Controlled Fusion of Individual Femtoliter Droplets and Triggering of Confined Chemical Reactions on Demand. Biophysical Journal, 2011, 100, 522a. | 0.2 | 0 |
| 67 | Micro/nanofabricated environments for synthetic biology. Current Opinion in Biotechnology, 2011, 22, 516-526. | 3.3 | 15 |
| 68 | Fully inverted single-digit nanometer domains in ferroelectric films. Applied Physics Letters, 2010, 96, . | 1.5 | 17 |
| 69 | Interfacial tension controlled fusion of individual femtolitre droplets and triggering of confined chemical reactions on demand. Lab on A Chip, 2010, 10, 3373. | 3.1 | 9 |
| 70 | On-demand generation of monodisperse femtolitre droplets by shape-induced shear. Lab on A Chip, 2010, 10, 2688. | 3.1 | 29 |
| 71 | Shear-Driven Redistribution of Surfactant Affects Enzyme Activity in Well-Mixed Femtoliter Droplets. Analytical Chemistry, 2009, 81, 4922-4928. | 3.2 | 29 |
| 72 | High Aspect Ratio Silicon Dioxide-Coated Single-Walled Carbon Nanotube Scanning Probe Nanoelectrodes. Journal of Physical Chemistry C, 2009, 113, 6815-6820. | 1.5 | 10 |

| # | Article | IF | Citations |
|---|---|---|---|
| 73 | Fast Mixing and Reaction Initiation Control of Single-Enzyme Kinetics in Confined Volumes. Langmuir, 2008, 24, 4439-4442. | 1.6 | 38 |
| 74 | Nanopencil as a wear-tolerant probe for ultrahigh density data storage. Applied Physics Letters, 2008, 93, . | 1.5 | 22 |
| 75 | Amplitude Response of Single-Wall Carbon Nanotube Probes during Tapping Mode Atomic Force Microscopy:â€‰ Modeling and Experiment. Nano Letters, 2006, 6, 1669-1673. | 4.5 | 25 |
| 76 | Carbon nanotube tips for scanning probe microscopy. , 2006, , 295-313. | | 4 |
| 77 | Noncovalent Functionalization of Single-Walled Carbon Nanotubes with Water-Soluble Porphyrins. Journal of Physical Chemistry B, 2005, 109, 7605-7609. | 1.2 | 180 |
| 78 | Two-Component Membrane Lithography via Lipid Backfilling. ChemPhysChem, 2005, 6, 423-426. | 1.0 | 24 |
| 79 | Mechanisms of Single-Walled Carbon Nanotube Probeâ˘Sample Multistability in Tapping Mode AFM Imaging. Journal of Physical Chemistry B, 2005, 109, 11493-11500. | 1.2 | 25 |
| 80 | Electrowetting in Carbon Nanotubes. Science, 2005, 310, 1480-1483. | 6.0 | 126 |
| 81 | The Role of Microfilaments in Early Meiotic Maturation of Mouse Oocytes. Microscopy and Microanalysis, 2005, 11, 146-153. | 0.2 | 28 |
| 82 | Influence of Elastic Deformation on Single-Wall Carbon Nanotube Atomic Force Microscopy Probe Resolution. Journal of Physical Chemistry B, 2004, 108, 13613-13618. | 1.2 | 37 |
| 83 | Correlating AFM Probe Morphology to Image Resolution for Single-Wall Carbon Nanotube Tips. Nano Letters, 2004, 4, 725-731. | 4.5 | 73 |
| 84 | Nanoelectrode Scanning Probes from Fluorocarbon-Coated Single-Walled Carbon Nanotubes. Nano Letters, 2004, 4, 1873-1879. | 4.5 | 45 |
| 85 | Surfactant Activated Dip-Pen Nanolithography. Nano Letters, 2004, 4, 2171-2177. | 4.5 | 48 |
| 86 | Dip-Pen Nanolithography of Reactive Alkoxysilanes on Glass. Journal of the American Chemical Society, 2003, 125, 12096-12097. | 6.6 | 104 |
| 87 | The Structure of a Tetraazapentacene Molecular Monolayer. Journal of Physical Chemistry B, 2002, 106, 1833-1839. | 1.2 | 13 |
| 88 | Photochemical Response of Electronically Reconfigurable Molecule-Based Switching Tunnel Junctions. ChemPhysChem, 2002, 3, 458. | 1.0 | 13 |
| 89 | Two-Dimensional Molecular Electronics Circuits. ChemPhysChem, 2002, 3, 519-525. | 1.0 | 520 |
| 90 | Molecular-Based Electronically Switchable Tunnel Junction Devices. Journal of the American Chemical Society, 2001, 123, 12632-12641. | 6.6 | 294 |

| # | Article | IF | Citations |
|---|---|---|---|
| 91 | Switching Devices Based on Interlocked Molecules. Accounts of Chemical Research, 2001, 34, 433-444. | 7.6 | 770 |
| 92 | A [2]Catenane-Based Solid State Electronically Reconfigurable Switch. Science, 2000, 289, 1172-1175. | 6.0 | 1,326 |
| 93 | Fabrication and Transport Properties of Single-Molecule-Thick Electrochemical Junctions. Journal of the American Chemical Society, 2000, 122, 5831-5840. | 6.6 | 167 |
| 94 | The Dielectric Function of Silver Nanoparticle Langmuir Monolayers Compressed through the Metal Insulator Transition. Journal of the American Chemical Society, 2000, 122, 4077-4083. | 6.6 | 63 |
| 95 | Architectonic Quantum Dot Solids. Accounts of Chemical Research, 1999, 32, 415-423. | 7.6 | 349 |
| 96 | Electronically Configurable Molecular-Based Logic Gates. Science, 1999, 285, 391-394. | 6.0 | 1,474 |
| 97 | Positive and Negative Contrast Lithography on Silver Quantum Dot Monolayers. Journal of Physical Chemistry B, 1999, 103, 3524-3528. | 1.2 | 17 |
| 98 | The transition from localized to collective electronic states in a silver quantum dots monolayer examined by nonlinear optical response. Chemical Physics Letters, 1998, 291, 453-458. | 1.2 | 46 |
| 99 | Cooperative Phenomena in Artificial Solids Made from Silver Quantum Dots:Â The Importance of Classical Coupling. Journal of Physical Chemistry B, 1998, 102, 3425-3430. | 1.2 | 103 |
| 100 | Networks of Quantum Nanodots:Â The Role of Disorder in Modifying Electronic and Optical Properties. Journal of Physical Chemistry B, 1998, 102, 7727-7734. | 1.2 | 53 |
| 101 | NANOCRYSTAL SUPERLATTICES. Annual Review of Physical Chemistry, 1998, 49, 371-404. | 4.8 | 687 |
| 102 | On the ground electronic states of copper silicide and its ions. Journal of Chemical Physics, 1998, 108, 5728-5732. | 1.2 | 16 |
| 103 | Reversible Metal-Insulator Transition in Ordered Metal Nanocrystal Monolayers Observed by Impedance Spectroscopy. Physical Review Letters, 1998, 80, 3807-3810. | 2.9 | 140 |
| 104 | Direct Measurement of Water Cluster Concentrations by Infrared Cavity Ringdown Laser Absorption Spectroscopy. Journal of Physical Chemistry A, 1997, 101, 5211-5214. | 1.1 | 218 |
| 105 | Reversible Tuning of Silver Quantum Dot Monolayers Through the Metal-Insulator Transition. Science, 1997, 277, 1978-1981. | 6.0 | 814 |
| 106 | Cavity ringdown laser absorption spectroscopy and timeâ€ofâ€flight mass spectroscopy of jet cooled platinum silicides. Journal of Chemical Physics, 1996, 104, 2782-2788. | 1.2 | 31 |
| 107 | Infrared cavity ringdown laser absorption spectroscopy (IR-CRLAS). Chemical Physics Letters, 1995, 245, 273-280. | 1.2 | 106 |
| 108 | Vibrational spectra and assignments for 3,3,4,4-tetrafluorocyclobutene-d0, -d1, and -d2. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 1995, 51, 45-63. | 2.0 | 3 |

| # | Article | IF | Citations |
|---|---|---|---|
| 109 | Cavity ringdown laser absorption spectroscopy and timeâ€ofâ€flight mass spectroscopy of jetâ€cooled gold silicides. Journal of Chemical Physics, 1995, 103, 9187-9192. | 1.2 | 78 |
| 110 | Cavity ringdown laser absorption spectroscopy and timeâ€ofâ€flight mass spectroscopy of jetâ€cooled silver silicides. Journal of Chemical Physics, 1995, 103, 113-120. | 1.2 | 54 |
| 111 | Cavity ringdown laser absorption spectroscopy and timeâ€ofâ€flight mass spectroscopy of jetâ€cooled copper silicides. Journal of Chemical Physics, 1995, 102, 5190-5199. | 1.2 | 93 |
| 112 | Laser-initiated chain reactions and microexplosions in solid solutions of simple alkenes and chlorine. The Journal of Physical Chemistry, 1992, 96, 1288-1293. | 2.9 | 7 |
| 113 | Self-Organization Controls Expression More than Abundance of Molecular Components of Transcription and Translation in Confined Cell-Free Gene Expression. SSRN Electronic Journal, 0, , . | 0.4 | 0 |