## Sharon C Glotzer

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/5839913/publications.pdf

Version: 2024-02-01

190 papers 19,687 citations

18482 62 h-index 138 g-index

195 all docs 195
docs citations

195 times ranked 15290 citing authors

| #  | Article   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | Anisotropy of building blocks and their assembly into complex structures. Nature Materials, 2007, 6, 557-562.   | 27.5 | 2,440     |
| 2  | Predictive Self-Assembly of Polyhedra into Complex Structures. Science, 2012, 337, 453-457.   | 12.6 | 882       |
| 3  | Dynamical Heterogeneities in a Supercooled Lennard-Jones Liquid. Physical Review Letters, 1997, 79, 2827-2830.  | 7.8  | 861       |
| 4  | Stringlike Cooperative Motion in a Supercooled Liquid. Physical Review Letters, 1998, 80, 2338-2341.  | 7.8  | 846       |
| 5  | Self-Assembly of CdTe Nanocrystals into Free-Floating Sheets. Science, 2006, 314, 274-278.  | 12.6 | 824       |
| 6  | Self-Assembly of Patchy Particles. Nano Letters, 2004, 4, 1407-1413.  | 9.1  | 722       |
| 7  | Strong scaling of general-purpose molecular dynamics simulations on GPUs. Computer Physics Communications, 2015, 192, 97-107.                                       | 7.5  | 546       |
| 8  | A kirigami approach to engineering elasticity in nanocomposites through patterned defects. Nature Materials, 2015, 14, 785-789.                                     | 27.5 | 509       |
| 9  | Self-assembly of self-limiting monodisperse supraparticles from polydisperse nanoparticles. Nature Nanotechnology, 2011, 6, 580-587.                                | 31.5 | 488       |
| 10 | Spatial correlations of mobility and immobility in a glass-forming Lennard-Jones liquid. Physical Review E, 1999, 60, 3107-3119.                                    | 2.1  | 455       |
| 11 | Disordered, quasicrystalline and crystalline phases of densely packed tetrahedra. Nature, 2009, 462, 773-777.   | 27.8 | 394       |
| 12 | Spatially heterogeneous dynamics in liquids: insights from simulation. Journal of Non-Crystalline Solids, 2000, 274, 342-355.                                       | 3.1  | 385       |
| 13 | Growing range of correlated motion in a polymer melt on cooling towards the glass transition.<br>Nature, 1999, 399, 246-249.  | 27.8 | 374       |
| 14 | MATERIALS SCIENCE: Some Assembly Required. Science, 2004, 306, 419-420.   | 12.6 | 373       |
| 15 | Measurement of growing dynamical length scales and prediction of the jamming transition in a granular material. Nature Physics, 2007, 3, 260-264.                   | 16.7 | 330       |
| 16 | HOOMD-blue: A Python package for high-performance molecular dynamics and hard particle Monte Carlo simulations. Computational Materials Science, 2020, 173, 109363. | 3.0  | 326       |
| 17 | Tethered Nano Building Blocks:Â Toward a Conceptual Framework for Nanoparticle Self-Assembly.<br>Nano Letters, 2003, 3, 1341-1346.                                  | 9.1  | 311       |
| 18 | Competition of shape and interaction patchiness for self-assembling nanoplates. Nature Chemistry, 2013, 5, 466-473.   | 13.6 | 278       |

| #  | Article  | lF   | Citations |
|----|--|------|-----------|
| 19 | Self-Assembly of Patchy Particles into Diamond Structures through Molecular Mimicry. Langmuir, 2005, 21, 11547-11551.  | 3.5  | 271       |
| 20 | Reaction-Controlled Morphology of Phase-Separating Mixtures. Physical Review Letters, 1995, 74, 2034-2037.   | 7.8  | 255       |
| 21 | Effects of a nanoscopic filler on the structure and dynamics of a simulated polymer melt and the relationship to ultrathin films. Physical Review E, 2001, 64, 021802.   | 2.1  | 247       |
| 22 | Origin of particle clustering in a simulated polymer nanocomposite and its impact on rheology. Journal of Chemical Physics, 2003, 119, 1777-1788.  | 3.0  | 213       |
| 23 | Time-dependent, four-point density correlation function description of dynamical heterogeneity and decoupling in supercooled liquids. Journal of Chemical Physics, 2000, 112, 509-512.                         | 3.0  | 204       |
| 24 | Geometry induced sequence of nanoscale Frank–Kasper and quasicrystal mesophases in giant surfactants. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14195-14200. | 7.1  | 201       |
| 25 | Molecular Dynamics Simulation Study of Self-Assembled Monolayers of Alkanethiol Surfactants on Spherical Gold Nanoparticles. Journal of Physical Chemistry C, 2007, 111, 15857-15862.                          | 3.1  | 199       |
| 26 | Understanding shape entropy through local dense packing. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E4812-21.   | 7.1  | 199       |
| 27 | Molecular and Mesoscale Simulation Methods for Polymer Materials. Annual Review of Materials Research, 2002, 32, 401-436.  | 9.3  | 194       |
| 28 | Hard-disk equation of state: First-order liquid-hexatic transition in two dimensions with three simulation methods. Physical Review E, 2013, 87, 042134.   | 2.1  | 192       |
| 29 | Crystalline Assemblies and Densest Packings of a Family of Truncated Tetrahedra and the Role of Directional Entropic Forces. ACS Nano, 2012, 6, 609-614.   | 14.6 | 190       |
| 30 | Entropically Patchy Particles: Engineering Valence through Shape Entropy. ACS Nano, 2014, 8, 931-940.  | 14.6 | 175       |
| 31 | Emergent Collective Phenomena in a Mixture of Hard Shapes through Active Rotation. Physical Review Letters, 2014, 112, 075701.   | 7.8  | 170       |
| 32 | Rigid body constraints realized in massively-parallel molecular dynamics on graphics processing units. Computer Physics Communications, 2011, 182, 2307-2313.  | 7.5  | 164       |
| 33 | Clathrate colloidal crystals. Science, 2017, 355, 931-935.   | 12.6 | 162       |
| 34 | Growing Spatial Correlations of Particle Displacements in a Simulated Liquid on Cooling toward the Glass Transition. Physical Review Letters, 1999, 82, 5064-5067.   | 7.8  | 160       |
| 35 | Pseudo-random number generation for Brownian Dynamics and Dissipative Particle Dynamics simulations on GPU devices. Journal of Computational Physics, 2011, 230, 7191-7201.                                    | 3.8  | 148       |
| 36 | Simulations and Analysis of Self-Assembly of CdTe Nanoparticles into Wires and Sheets. Nano Letters, 2007, 7, 1670-1675.   | 9.1  | 147       |

| #  | Article   | IF   | CITATIONS |
|----|---|------|-----------|
| 37 | Shape-dependent ordering of gold nanocrystals into large-scale superlattices. Nature Communications, 2017, 8, 14038.  | 12.8 | 141       |
| 38 | How do Quasicrystals Grow?. Physical Review Letters, 2007, 99, 235503.  | 7.8  | 138       |
| 39 | Actuation of shape-memory colloidal fibres of Janus ellipsoids. Nature Materials, 2015, 14, 117-124.  | 27.5 | 136       |
| 40 | freud: A software suite for high throughput analysis of particle simulation data. Computer Physics Communications, 2020, 254, 107275.                                       | 7.5  | 133       |
| 41 | Computational self-assembly of a one-component icosahedral quasicrystal. Nature Materials, 2015, 14, 109-116.   | 27.5 | 129       |
| 42 | Self-assembly of soft-matter quasicrystals and their approximants. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 20935-20940. | 7.1  | 115       |
| 43 | Quasicrystalline nanocrystal superlattice with partial matching rules. Nature Materials, 2017, 16, 214-219.   | 27.5 | 114       |
| 44 | Shape Alloys of Nanorods and Nanospheres from Self-Assembly. Nano Letters, 2013, 13, 4980-4988.   | 9.1  | 104       |
| 45 | Terminal supraparticle assemblies from similarly charged protein molecules and nanoparticles. Nature Communications, 2014, 5, 3593.   | 12.8 | 97        |
| 46 | Simple data and workflow management with the signac framework. Computational Materials Science, 2018, 146, 220-229.   | 3.0  | 91        |
| 47 | A Directional Entropic Force Approach to Assemble Anisotropic Nanoparticles into Superlattices.<br>Angewandte Chemie - International Edition, 2013, 52, 13980-13984.        | 13.8 | 90        |
| 48 | Role of Short-Range Order and Hyperuniformity in the Formation of Band Gaps in Disordered Photonic Materials. Physical Review Letters, 2016, 117, 053902.                   | 7.8  | 88        |
| 49 | Dense Crystalline Dimer Packings of Regular Tetrahedra. Discrete and Computational Geometry, 2010, 44, 253-280.   | 0.6  | 87        |
| 50 | Icosahedral packing of polymer-tethered nanospheres and stabilization of the gyroid phase. Physical Review E, 2007, 75, 040801.   | 2.1  | 80        |
| 51 | Self-Assembly and Reconfigurability of Shape-Shifting Particles. ACS Nano, 2011, 5, 8892-8903.  | 14.6 | 76        |
| 52 | Phase diagram of hard tetrahedra. Journal of Chemical Physics, 2011, 135, 194101.   | 3.0  | 76        |
| 53 | Self-Assembly of Archimedean Tilings with Enthalpically and Entropically Patchy Polygons. ACS Nano, 2014, 8, 2918-2928.   | 14.6 | 76        |
| 54 | Liquid Crystal Order in Colloidal Suspensions of Spheroidal Particles by Direct Current Electric Field Assembly. Small, 2012, 8, 1551-1562.                                 | 10.0 | 71        |

| #  | Article   | IF   | Citations |
|----|---|------|-----------|
| 55 | Supercharging enables organized assembly of synthetic biomolecules. Nature Chemistry, 2019, 11, 204-212.  | 13.6 | 70        |
| 56 | Simulations of Tetra-Tethered Organic/Inorganic Nanocubeâ^'Polymer Assemblies. Macromolecules, 2005, 38, 6168-6180.   | 4.8  | 69        |
| 57 | Scalable Metropolis Monte Carlo for simulation of hard shapes. Computer Physics Communications, 2016, 204, 21-30.   | 7.5  | 69        |
| 58 | Clusters of polyhedra in spherical confinement. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E669-78.  | 7.1  | 68        |
| 59 | Shape control and compartmentalization in active colloidal cells. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E4642-50.   | 7.1  | 67        |
| 60 | Simultaneous Nano―and Microscale Control of Nanofibrous Microspheres Selfâ€Assembled from Starâ€6haped Polymers. Advanced Materials, 2015, 27, 3947-3952.   | 21.0 | 63        |
| 61 | Characterizing complex particle morphologies through shape matching: Descriptors, applications, and algorithms. Journal of Computational Physics, 2011, 230, 6438-6463.   | 3.8  | 62        |
| 62 | Digital Alchemy for Materials Design: Colloids and Beyond. ACS Nano, 2015, 9, 9542-9553.  | 14.6 | 62        |
| 63 | Shape and Symmetry Determine Two-Dimensional Melting Transitions of Hard Regular Polygons.<br>Physical Review X, 2017, 7, .   | 8.9  | 61        |
| 64 | Colloidal fibers and rings by cooperative assembly. Nature Communications, 2019, 10, 3936.  | 12.8 | 61        |
| 65 | The diversity of three-dimensional photonic crystals. Nature Communications, 2021, 12, 2543.  | 12.8 | 61        |
| 66 | Entropic colloidal crystallization pathways via fluid–fluid transitions and multidimensional prenucleation motifs. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14843-14851. | 7.1  | 60        |
| 67 | Characterizing Structure Through Shape Matching and Applications to Self-Assembly. Annual Review of Condensed Matter Physics, 2011, 2, 263-285.   | 14.5 | 59        |
| 68 | Massively parallel Monte Carlo for many-particle simulations on GPUs. Journal of Computational Physics, 2013, 254, 27-38.   | 3.8  | 58        |
| 69 | Effect of ordering on spinodal decomposition of liquid-crystal/polymer mixtures. Physical Review E, 1999, 60, R29-R32.  | 2.1  | 55        |
| 70 | Efficient neighbor list calculation for molecular simulation of colloidal systems using graphics processing units. Computer Physics Communications, 2016, 203, 45-52.   | 7.5  | 53        |
| 71 | Relevance of packing to colloidal self-assembly. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1439-1444.   | 7.1  | 52        |
| 72 | Digital colloids: reconfigurable clusters as high information density elements. Soft Matter, 2014, 10, 7468-7479.   | 2.7  | 50        |

| #  | Article  | lF   | Citations |
|----|--|------|-----------|
| 73 | Degenerate Quasicrystal of Hard Triangular Bipyramids. Physical Review Letters, 2011, 107, 215702.   | 7.8  | 49        |
| 74 | Engineering entropy for the inverse design of colloidal crystals from hard shapes. Science Advances, 2019, 5, eaaw0514.  | 10.3 | 49        |
| 75 | Self-assembly of end-tethered nanorods in a neat system and role of block fractions and aspect ratio. Soft Matter, 2010, 6, 945.                                       | 2.7  | 47        |
| 76 | Stability of the double gyroid phase to nanoparticle polydispersity in polymer-tethered nanosphere systems. Soft Matter, 2010, 6, 1693.                                | 2.7  | 46        |
| 77 | Shape-driven solid–solid transitions in colloids. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E3892-E3899.             | 7.1  | 45        |
| 78 | The entropic bond in colloidal crystals. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 16703-16710.                      | 7.1  | 42        |
| 79 | Screening and designing patchy particles for optimized self-assembly propensity through assembly pathway engineering. Soft Matter, 2012, 8, 2852.                      | 2.7  | 40        |
| 80 | Metastable orientational order of colloidal discoids. Nature Communications, 2015, 6, 8507.  | 12.8 | 40        |
| 81 | Design of patchy particles using ternary self-assembled monolayers. Soft Matter, 2012, 8, 6226.  | 2.7  | 38        |
| 82 | GPU accelerated Discrete Element Method (DEM) molecular dynamics for conservative, faceted particle simulations. Journal of Computational Physics, 2017, 334, 460-467. | 3.8  | 38        |
| 83 | The emergence of valency in colloidal crystals through electron equivalents. Nature Materials, 2022, 21, 580-587.  | 27.5 | 37        |
| 84 | Phase Behavior and Complex Crystal Structures of Self-Assembled Tethered Nanoparticle Telechelics. Nano Letters, 2014, 14, 2071-2078.                                  | 9.1  | 36        |
| 85 | Complexity in Surfaces of Densest Packings for Families of Polyhedra. Physical Review X, 2014, 4, .  | 8.9  | 36        |
| 86 | Rational design of nanomaterials from assembly and reconfigurability of polymer-tethered nanoparticles. MRS Communications, 2015, 5, 397-406.                          | 1.8  | 36        |
| 87 | COMPUTER SIMULATIONS OF SPINODAL DECOMPOSITION IN POLYMER BLENDS. , 1995, , 1-46.  |      | 35        |
| 88 | Effect of nanoparticle polydispersity on the self-assembly of polymer tethered nanospheres. Journal of Chemical Physics, 2012, 137, 104901.                            | 3.0  | 34        |
| 89 | Analysis of Self-Assembly Pathways with Unsupervised Machine Learning Algorithms. Journal of Physical Chemistry B, 2020, 124, 69-78.                                   | 2.6  | 34        |
| 90 | Efficient Phase Diagram Sampling by Active Learning. Journal of Physical Chemistry B, 2020, 124, 1275-1284.  | 2.6  | 33        |

| #   | Article   | IF   | Citations |
|-----|---|------|-----------|
| 91  | On the mechanism of pinning in phaseâ€separating polymer blends. Journal of Chemical Physics, 1995, 103, 9363-9369.   | 3.0  | 32        |
| 92  | Dynamical heterogeneity in the Ising spin glass. Physical Review E, 1998, 57, 7350-7353.  | 2.1  | 31        |
| 93  | Phase behavior of ditethered nanospheres. Soft Matter, 2009, 5, 4492.   | 2.7  | 30        |
| 94  | Inverse design of simple pair potentials for the self-assembly of complex structures. Journal of Chemical Physics, 2018, 149, 204102.   | 3.0  | 30        |
| 95  | Emergence of Fast Local Dynamics on Cooling toward the Ising Spin Glass Transition. Physical Review Letters, 1997, 78, 3394-3397.   | 7.8  | 29        |
| 96  | Influence of Softness on the Stability of Binary Colloidal Crystals. ACS Nano, 2019, 13, 13829-13842.   | 14.6 | 29        |
| 97  | Binding kinetics of lock and key colloids. Journal of Chemical Physics, 2015, 142, 174909.  | 3.0  | 28        |
| 98  | Unusual multiscale mechanics of biomimetic nanoparticle hydrogels. Nature Communications, 2018, 9, 181.   | 12.8 | 28        |
| 99  | Using depletion to control colloidal crystal assemblies of hard cuboctahedra. Soft Matter, 2016, 12, 5199-5204.   | 2.7  | 27        |
| 100 | Symmetry Considerations for the Targeted Assembly of Entropically Stabilized Colloidal Crystals <i>via</i> Voronoi Particles. ACS Nano, 2015, 9, 2336-2344.   | 14.6 | 26        |
| 101 | Self-assembled clusters of spheres related to spherical codes. Physical Review E, 2012, 86, 041124.   | 2.1  | 25        |
| 102 | Generic, phenomenological, on-the-fly renormalized repulsion model for self-limited organization of terminal supraparticle assemblies. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E3161-8. | 7.1  | 24        |
| 103 | Supraparticle Nanoassemblies with Enzymes. Chemistry of Materials, 2019, 31, 7493-7500.   | 6.7  | 24        |
| 104 | Assembly engineering: Materials design for the 21st century (2013 P.V. Danckwerts lecture). Chemical Engineering Science, 2015, 121, 3-9.   | 3.8  | 23        |
| 105 | Intermediate crystalline structures of colloids in shape space. Soft Matter, 2018, 14, 8692-8697.   | 2.7  | 23        |
| 106 | Nanoscience and Nanotechnology Impacting Diverse Fields of Science, Engineering, and Medicine. ACS Nano, 2016, 10, 10615-10617.   | 14.6 | 22        |
| 107 | Non-close-packed three-dimensional quasicrystals. Journal of Physics Condensed Matter, 2017, 29, 234005.  | 1.8  | 22        |
| 108 | Dendrimer Ligand Directed Nanoplate Assembly. ACS Nano, 2019, 13, 14241-14251.  | 14.6 | 22        |

| #   | Article   | IF   | CITATIONS |
|-----|---|------|-----------|
| 109 | Effect of Defective Microstructure and Film Thickness on the Reflective Structural Color of Self-Assembled Colloidal Crystals. ACS Applied Materials & Interfaces, 2020, 12, 9842-9850. | 8.0  | 22        |
| 110 | A theory of entropic bonding. Proceedings of the National Academy of Sciences of the United States of America, 2022, $119$ , .  | 7.1  | 22        |
| 111 | Phase separation and state oscillation of active inertial particles. Soft Matter, 2020, 16, 2847-2853.  | 2.7  | 21        |
| 112 | Symmetries in hard polygon systems determine plastic colloidal crystal mesophases in two dimensions. Soft Matter, 2019, 15, 2571-2579.  | 2.7  | 20        |
| 113 | Self-Assembly Mechanism of Complex Corrugated Particles. Journal of the American Chemical Society, 2021, 143, 19655-19667.  | 13.7 | 20        |
| 114 | Virial Coefficients and Equations of State for Hard Polyhedron Fluids. Langmuir, 2017, 33, 11788-11796.   | 3.5  | 19        |
| 115 | Pressure in rigid body molecular dynamics. Computational Materials Science, 2020, 173, 109430.  | 3.0  | 19        |
| 116 | Anisotropic nanocrystal shape and ligand design for co-assembly. Science Advances, 2021, 7, .   | 10.3 | 19        |
| 117 | A parallel algorithm for implicit depletant simulations. Journal of Chemical Physics, 2015, 143, 184110.  | 3.0  | 18        |
| 118 | Coarsening dynamics of binary liquids with active rotation. Soft Matter, 2015, 11, 8409-8416.   | 2.7  | 18        |
| 119 | Shape allophiles improve entropic assembly. Soft Matter, 2015, 11, 7250-7256.   | 2.7  | 18        |
| 120 | Effect of shape on the self-assembly of faceted patchy nanoplates with irregular shape into tiling patterns. Soft Matter, 2015, 11, 1386-1396.  | 2.7  | 17        |
| 121 | Phase separation of self-propelled ballistic particles. Physical Review E, 2018, 97, 042609.  | 2.1  | 16        |
| 122 | Universal folding pathways of polyhedron nets. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E6690-E6696.                                 | 7.1  | 16        |
| 123 | Identity crisis in alchemical space drives the entropic colloidal glass transition. Nature Communications, 2019, 10, 64.  | 12.8 | 16        |
| 124 | Openâ€source molecular modeling software in chemical engineering focusing on the Molecular Simulation Design Framework. AICHE Journal, 2021, 67, e17206.                                | 3.6  | 16        |
| 125 | Pressure-tunable photonic band gaps in an entropic colloidal crystal. Physical Review Materials, 2018, 2, .   | 2.4  | 16        |
| 126 | Controlling Chirality of Entropic Crystals. Physical Review Letters, 2015, 115, 158303.   | 7.8  | 15        |

| #   | Article  | IF   | Citations |
|-----|--|------|-----------|
| 127 | Strong orientational coordinates and orientational order parameters for symmetric objects. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 485201.   | 2.1  | 15        |
| 128 | Anisotropy effects on the kinetics of colloidal crystallization and melting: comparison of spheres and ellipsoids. Soft Matter, 2019, 15, 7479-7489.   | 2.7  | 13        |
| 129 | A mean-field approach to simulating anisotropic particles. Journal of Chemical Physics, 2020, 153, 084106.   | 3.0  | 13        |
| 130 | Cooperative Switching in Largeâ€Area Assemblies of Magnetic Janus Particles. Advanced Functional Materials, 2020, 30, 1907865.   | 14.9 | 13        |
| 131 | Theory, Simulation, and Computation in Nanoscience and Nanotechnology. ACS Nano, 2017, 11, 6505-6506.  | 14.6 | 12        |
| 132 | Tunable emergent structures and traveling waves in mixtures of passive and contact-triggered-active particles. Soft Matter, 2017, 13, 6332-6339.   | 2.7  | 11        |
| 133 | Phase behavior and design rules for plastic colloidal crystals of hard polyhedra via consideration of directional entropic forces. Soft Matter, 2019, 15, 5380-5389.   | 2.7  | 11        |
| 134 | Strain fields in repulsive colloidal crystals. Physical Review Materials, 2018, 2, .   | 2.4  | 11        |
| 135 | Shapes within shapes: how particles arrange inside a cavity. Soft Matter, 2018, 14, 3012-3017.   | 2.7  | 10        |
| 136 | FCC â†" BCC Phase Transitions in Convex and Concave Hard Particle Systems. Journal of Physical Chemistry B, 2019, 123, 9038-9043.  | 2.6  | 10        |
| 137 | Entropic formation of a thermodynamically stable colloidal quasicrystal with negligible phason strain. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .               | 7.1  | 10        |
| 138 | Moving beyond the constraints of chemistry via crystal structure discovery with isotropic multiwell pair potentials. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, . | 7.1  | 10        |
| 139 | Unexpected Dependence of Photonic Band Gap Size on Randomness in Self-Assembled Colloidal Crystals. Physical Review Letters, 2021, 126, 208002.  | 7.8  | 10        |
| 140 | Computational self-assembly of colloidal crystals from Platonic polyhedral sphere clusters. Soft Matter, 2019, 15, 6288-6299.  | 2.7  | 9         |
| 141 | Data driven analytics of porous battery microstructures. Energy and Environmental Science, 2021, 14, 2485-2493.  | 30.8 | 9         |
| 142 | Shape-driven entropic self-assembly of an open, reconfigurable, binary host–guest colloidal crystal. Soft Matter, 2021, 17, 2840-2848.   | 2.7  | 9         |
| 143 | Alchemical molecular dynamics for inverse design. Molecular Physics, 2019, 117, 3968-3980.   | 1.7  | 8         |
| 144 | Effect of Particles of Irregular Size on the Microstructure and Structural Color of Self-Assembled Colloidal Crystals. Langmuir, 2021, 37, 13300-13308.  | 3.5  | 7         |

| #   | Article   | IF   | Citations |
|-----|---|------|-----------|
| 145 | Particle anisotropy tunes emergent behavior in active colloidal systems. Soft Matter, 2022, 18, 1044-1053.  | 2.7  | 7         |
| 146 | Tuning Stoichiometry to Promote Formation of Binary Colloidal Superlattices. Physical Review Letters, 2022, 128, 188001.  | 7.8  | 7         |
| 147 | Hierarchical self-assembly of hard cube derivatives. Soft Matter, 2019, 15, 3733-3739.  | 2.7  | 6         |
| 148 | Unified memory in HOOMD-blue improves node-level strong scaling. Computational Materials Science, 2020, 173, 109359.  | 3.0  | 6         |
| 149 | Inverse design of compression-induced solid $\hat{a} \in \hat{a}$ solid transitions in colloids. Molecular Simulation, 2020, 46, 1037-1044.   | 2.0  | 6         |
| 150 | Scale-free, programmable design of morphable chain loops of kilobots and colloidal motors. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 8700-8710. | 7.1  | 6         |
| 151 | Evaporation-Driven Coassembly of Hierarchical, Multicomponent Networks. ACS Nano, 2022, 16, 4508-4516.  | 14.6 | 6         |
| 152 | Designing active particles for colloidal microstructure manipulation <i>via</i> strain field alchemy. Soft Matter, 2019, 15, 6086-6096.   | 2.7  | 5         |
| 153 | Sculpting crystals one Burgers vector at a time: Toward colloidal lattice robot swarms. Proceedings of the National Academy of Sciences of the United States of America, 2021, $118$ , .          | 7.1  | 5         |
| 154 | Accelerated annealing of colloidal crystal monolayers by means of cyclically applied electric fields. Scientific Reports, 2021, 11, 11042.  | 3.3  | 5         |
| 155 | rowan: A Python package for working with quaternions. Journal of Open Source Software, 2018, 3, 787.  | 4.6  | 5         |
| 156 | Simulations of Filled Polymers on Multiple Length Scales. Materials Research Society Symposia Proceedings, 2000, 661, KK4.1.1.  | 0.1  | 4         |
| 157 | Challenges and Opportunities in Preparing Students for Petascale Computational Science and Engineering. Computing in Science and Engineering, 2009, 11, 22-27.                                    | 1.2  | 4         |
| 158 | Shape-controlled crystallisation pathways in dense fluids of <i>ccp</i> forming hard polyhedra. Molecular Physics, 2019, 117, 3819-3826.  | 1.7  | 4         |
| 159 | Announcing the 2020 ACS Nano Award Lecture Laureates. ACS Nano, 2020, 14, 1213-1215.  | 14.6 | 4         |
| 160 | A triangular affair. Nature Physics, 2014, 10, 185-186.   | 16.7 | 3         |
| 161 | Editorial: Soft Matters. Physical Review Letters, 2015, 114, 050001.  | 7.8  | 3         |
| 162 | Topological order in densely packed anisotropic colloids. Physical Review E, 2019, 100, 032608.   | 2.1  | 3         |

| #   | Article   | IF   | Citations |
|-----|---|------|-----------|
| 163 | Pinning dislocations in colloidal crystals with active particles that seek stacking faults. Soft Matter, 2020, 16, 4182-4191.   | 2.7  | 3         |
| 164 | The role of complementary shape in protein dimerization. Soft Matter, 2021, 17, 7376-7383.  | 2.7  | 3         |
| 165 | A route to hierarchical assembly of colloidal diamond. Soft Matter, 2022, 18, 304-311.  | 2.7  | 3         |
| 166 | Structural Color Spectral Response of Dense Structures of Discoidal Particles Generated by Evaporative Assembly. Journal of Physical Chemistry B, 2022, 126, 1315-1324. | 2.6  | 3         |
| 167 | Shape-driven, emergent behavior in active particle mixtures. New Journal of Physics, 2022, 24, 063007.  | 2.9  | 3         |
| 168 | Principle of corresponding states for hard polyhedron fluids. Molecular Physics, 2019, 117, 3518-3526.  | 1.7  | 2         |
| 169 | Particle shape tunes fragility in hard polyhedron glass-formers. Soft Matter, 2021, 17, 600-610.  | 2.7  | 2         |
| 170 | Formation of a single quasicrystal upon collision of multiple grains. Nature Communications, 2021, 12, 5790.  | 12.8 | 2         |
| 171 | The alchemical energy landscape for a pentameric cluster. Journal of Chemical Physics, 2020, 152, 014106.   | 3.0  | 2         |
| 172 | Inverse design of isotropic pair potentials using digital alchemy with a generalized Fourier potential. European Physical Journal B, 2021, 94, 1.                       | 1.5  | 2         |
| 173 | NSF NSDL Materials Digital Library & MSE Education. Materials Research Society Symposia Proceedings, 2005, 909, 1.  | 0.1  | 1         |
| 174 | A Big Year Ahead for Nano in 2018. ACS Nano, 2017, 11, 11755-11757.   | 14.6 | 1         |
| 175 | coxeter: A Python package for working with shapes. Journal of Open Source Software, 2021, 6, 3098.  | 4.6  | 1         |
| 176 | Growing Contributions of Nano in 2020. ACS Nano, 2020, 14, 16163-16164.   | 14.6 | 1         |
| 177 | Computational self-assembly of a one-component icosahedral quasicrystal. , 0, .   |      | 1         |
| 178 | HOOMD-blue version 3.0 A Modern, Extensible, Flexible, Object-Oriented API for Molecular Simulations. , 2020, , .   |      | 1         |
| 179 | Self-Organization of Nanoscopic Building Blocks into Ordered Assemblies. Materials Research Society Symposia Proceedings, 2004, 818, 23.                                | 0.1  | 0         |
| 180 | Simulations of Organic-tethered Silsesquioxane Nanocube Assemblies. Materials Research Society Symposia Proceedings, 2004, 847, 1.                                      | 0.1  | 0         |

| #   | Article  | IF   | CITATIONS |
|-----|--|------|-----------|
| 181 | Multi-Block Copolymers in Selective Solvent: A Brownian Dynamics Simulation. Materials Research Society Symposia Proceedings, 2004, 856, BB8.6.1.  | 0.1  | 0         |
| 182 | MatDL.org: The Materials Digital Library and the National Science Digital Library Program. Materials Research Society Symposia Proceedings, 2004, 827, 231.                                      | 0.1  | 0         |
| 183 | Visualization and Analysis of GPU Summer School Applicants and Participants. , 2008, , .   |      | 0         |
| 184 | Self-Assembly and Self-Tuning Behavior of Self-Propelled Particles. , 2011, , .  |      | 0         |
| 185 | Biomaterials: Simultaneous Nano―and Microscale Control of Nanofibrous Microspheres<br>Selfâ€Assembled from Starâ€5haped Polymers (Adv. Mater. 26/2015). Advanced Materials, 2015, 27, 3972-3972. | 21.0 | O         |
| 186 | Our First and Next Decades at ACS Nano. ACS Nano, 2017, 11, 7553-7555.   | 14.6 | 0         |
| 187 | Helmuth Möhwald (1946–2018). ACS Nano, 2018, 12, 3053-3055.  | 14.6 | O         |
| 188 | Synthesizable nanoparticle eigenshapes for colloidal crystals. Nanoscale, 2021, 13, 13301-13309.   | 5.6  | 0         |
| 189 | Unraveling the Self-Assembly Pathway of Binary Nanocrystal Superlattices. , 0, , .   |      | O         |
| 190 | Tanks and Truth. ACS Nano, 2022, 16, 4975-4976.  | 14.6 | 0         |