# Jonathan S Owen

## List of Publications by Year in descending order



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|---|---|---|---|
| 70 papers | 8,293 citations | 71061 41 h-index | 95218 68 g-index |
| 74 all docs | 74 docs citations | 74 times ranked | 11025 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Trap States in Lead Iodide Perovskites. Journal of the American Chemical Society, 2015, 137, 2089-2096. | 6.6 | 813 |
| 2 | Ligand Exchange and the Stoichiometry of Metal Chalcogenide Nanocrystals: Spectroscopic Observation of Facile Metal-Carboxylate Displacement and Binding. Journal of the American Chemical Society, 2013, 135, 18536-18548. | 6.6 | 714 |
| 3 | Local Polar Fluctuations in Lead Halide Perovskite Crystals. Physical Review Letters, 2017, 118, 136001. | 2.9 | 489 |
| 4 | Mechanistic Study of Precursor Evolution in Colloidal Group IIâ^'VI Semiconductor Nanocrystal Synthesis. Journal of the American Chemical Society, 2007, 129, 305-312. | 6.6 | 375 |
| 5 | Reaction Chemistry and Ligand Exchange at Cadmiumâ^'Selenide Nanocrystal Surfaces. Journal of the American Chemical Society, 2008, 130, 12279-12281. | 6.6 | 351 |
| 6 | A tunable library of substituted thiourea precursors to metal sulfide nanocrystals. Science, 2015, 348, 1226-1230. | 6.0 | 343 |
| 7 | The coordination chemistry of nanocrystal surfaces. Science, 2015, 347, 615-616. | 6.0 | 322 |
| 8 | Infrared Spectroscopic Study of Vibrational Modes in Methylammonium Lead Halide Perovskites. Journal of Physical Chemistry Letters, 2015, 6, 2913-2918. | 2.1 | 289 |
| 9 | Chemical Synthesis and Luminescence Applications of Colloidal Semiconductor Quantum Dots. Journal of the American Chemical Society, 2017, 139, 10939-10943. | 6.6 | 286 |
| 10 | Structure of Methylammonium Lead Iodide Within Mesoporous Titanium Dioxide: Active Material in High-Performance Perovskite Solar Cells. Nano Letters, 2014, 14, 127-133. | 4.5 | 282 |
| 11 | Excitons in ultrathin organic-inorganic perovskite crystals. Physical Review B, 2015, 92, . | 1.1 | 263 |
| 12 | On the Origin of Surface Traps in Colloidal IIâ€"VI Semiconductor Nanocrystals. Chemistry of Materials, 2017, 29, 752-761. | 3.2 | 231 |
| 13 | Precursor Conversion Kinetics and the Nucleation of Cadmium Selenide Nanocrystals. Journal of the American Chemical Society, 2010, 132, 18206-18213. | 6.6 | 230 |
| 14 | Direct Observation of Dynamic Symmetry Breaking above Room Temperature in Methylammonium Lead Iodide Perovskite. ACS Energy Letters, 2016, 1, 880-887. | 8.8 | 221 |
| 15 | Reproducible, High-Throughput Synthesis of Colloidal Nanocrystals for Optimization in Multidimensional Parameter Space. Nano Letters, 2010, 10, 1874-1885. | 4.5 | 201 |
| 16 | Conversion Reactions of Cadmium Chalcogenide Nanocrystal Precursors. Chemistry of Materials, 2013, 25, 1233-1249. | 3.2 | 184 |
| 17 | Atomic Structures and Gram Scale Synthesis of Three Tetrahedral Quantum Dots. Journal of the American Chemical Society, 2014, 136, 10645-10653. | 6.6 | 182 |
| 18 | CdSe Clusters: At the Interface of Small Molecules and Quantum Dots. Chemistry of Materials, 2011, 23, 3114-3119. | 3.2 | 155 |

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|---|---|---|---|
| 19 | Soluble, Chloride-Terminated CdSe Nanocrystals: Ligand Exchange Monitored by <sup>1</sup>H and <sup>31</sup>P NMR Spectroscopy. Chemistry of Materials, 2013, 25, 69-76. | 3.2 | 154 |
| 20 | Probing Solventâ€“Ligand Interactions in Colloidal Nanocrystals by the NMR Line Broadening. Chemistry of Materials, 2018, 30, 5485-5492. | 3.2 | 117 |
| 21 | Pyridinium-Derived N-Heterocyclic Carbene Complexes of Platinum:â€‰ Synthesis, Structure and Ligand Substitution Kinetics. Journal of the American Chemical Society, 2004, 126, 8247-8255. | 6.6 | 112 |
| 22 | Dynamic emission Stokes shift and liquid-like dielectric solvation of band edge carriers in lead-halide perovskites. Nature Communications, 2019, 10, 1175. | 5.8 | 111 |
| 23 | Targeted intracellular voltage recordings from dendritic spines using quantum-dot-coated nanopipettes. Nature Nanotechnology, 2017, 12, 335-342. | 15.6 | 107 |
| 24 | Unbalanced Hole and Electron Diffusion in Lead Bromide Perovskites. Nano Letters, 2017, 17, 1727-1732. | 4.5 | 100 |
| 25 | A Library of Selenourea Precursors to PbSe Nanocrystals with Size Distributions near the Homogeneous Limit. Journal of the American Chemical Society, 2017, 139, 2296-2305. | 6.6 | 96 |
| 26 | Kinetics and Mechanism of Methane, Methanol, and Dimethyl Ether Câ€“H Activation with Electrophilic Platinum Complexes. Journal of the American Chemical Society, 2006, 128, 2005-2016. | 6.6 | 95 |
| 27 | Interplay between organic cations and inorganic framework and incommensurability in hybrid lead-halide perovskite <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>CH</mml:mi><mml:mn>3</mml:mn></ml Physical Review Materials, 2017, 1, . | 0.9 | 87 |
| 28 | Focusing Nanocrystal Size Distributions via Production Control. Nano Letters, 2011, 11, 1976-1980. | 4.5 | 86 |
| 29 | Limits of Carrier Diffusion in n-Type and p-Type CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> Perovskite Single Crystals. Journal of Physical Chemistry Letters, 2016, 7, 3510-3518. | 2.1 | 86 |
| 30 | Tight Binding of Carboxylate, Phosphonate, and Carbamate Anions to Stoichiometric CdSe Nanocrystals. Journal of the American Chemical Society, 2017, 139, 3227-3236. | 6.6 | 84 |
| 31 | Modulation of nitrogen vacancy charge state and fluorescence in nanodiamonds using electrochemical potential. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3938-3943. | 3.3 | 77 |
| 32 | Nucleation and Growth Kinetics from LaMer Burst Data. Journal of Physical Chemistry A, 2017, 121, 7511-7517. | 1.1 | 67 |
| 33 | Tuning the Surface Structure and Optical Properties of CdSe Clusters Using Coordination Chemistry. Journal of Physical Chemistry Letters, 2011, 2, 3075-3080. | 2.1 | 62 |
| 34 | Effect of Surface Stoichiometry on Blinking and Hole Trapping Dynamics in CdSe Nanocrystals. Journal of Physical Chemistry C, 2015, 119, 27797-27803. | 1.5 | 55 |
| 35 | Surface Structure of Aerobically Oxidized Diamond Nanocrystals. Journal of Physical Chemistry C, 2014, 118, 26695-26702. | 1.5 | 54 |
| 36 | Flexible Nanopipettes for Minimally Invasive Intracellular Electrophysiology InÂVivo. Cell Reports, 2019, 26, 266-278.e5. | 2.9 | 52 |

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|---|---|---|---|
| 37 | A Hot Electronâ€“Hole Pair Breaks the Symmetry of a Semiconductor Quantum Dot. Nano Letters, 2013, 13, 6091-6097. | 4.5 | 51 |
| 38 | Continuous Nucleation and Size Dependent Growth Kinetics of Indium Phosphide Nanocrystals. Chemistry of Materials, 2020, 32, 4358-4368. | 3.2 | 48 |
| 39 | The Importance of Nanocrystal Precursor Conversion Kinetics: Mechanism of the Reaction between Cadmium Carboxylate and Cadmium Bis(diphenyldithiophosphinate). ACS Nano, 2012, 6, 10054-10062. | 7.3 | 47 |
| 40 | Stabilization of Colloidal Ti, Zr, and Hf Oxide Nanocrystals by Protonated Tri-n-octylphosphine Oxide (TOPO) and Its Decomposition Products. Chemistry of Materials, 2017, 29, 10233-10242. | 3.2 | 47 |
| 41 | Anthracene Diphosphate Ligands for CdSe Quantum Dots; Molecular Design for Efficient Upconversion. Chemistry of Materials, 2020, 32, 1461-1466. | 3.2 | 46 |
| 42 | Electrical Transport and Grain Growth in Solution-Cast, Chloride-Terminated Cadmium Selenide Nanocrystal Thin Films. ACS Nano, 2014, 8, 7513-7521. | 7.3 | 41 |
| 43 | Kinetic Control over CdS Nanocrystal Nucleation Using a Library of Thiocarbonates, Thiocarbamates, and Thioureas. Chemistry of Materials, 2017, 29, 8711-8719. | 3.2 | 41 |
| 44 | Pyridinium-derived N-heterocyclic carbene ligands: syntheses, structures and reactivity of N-(2â€²-pyridyl)pyridin-2-ylidene complexes of nickel(II), palladium(II) and platinum(II). Polyhedron, 2004, 23, 2797-2804. | 1.0 | 36 |
| 45 | Transition from Molecular Vibrations to Phonons in Atomically Precise Cadmium Selenide Quantum Dots. Journal of the American Chemical Society, 2016, 138, 16754-16763. | 6.6 | 36 |
| 46 | Stereoelectronic Effects on the Binding of Neutral Lewis Bases to CdSe Nanocrystals. Journal of the American Chemical Society, 2018, 140, 7199-7205. | 6.6 | 32 |
| 47 | Synthesis of Phosphonic Acid Ligands for Nanocrystal Surface Functionalization and Solution Processed Memristors. Chemistry of Materials, 2018, 30, 8034-8039. | 3.2 | 30 |
| 48 | Anthracene as a Launchpad for a Phosphinidene Sulfide and for Generation of a Phosphorusâ€“Sulfur Material Having the Composition P<sub>2</sub>S, a Vulcanized Red Phosphorus That Is Yellow. Journal of the American Chemical Society, 2019, 141, 431-440. | 6.6 | 26 |
| 49 | Rapid Access to Diverse Arrays of Chiral 3,4-Diazaphospholanes. Angewandte Chemie - International Edition, 2001, 40, 3432-3434. | 7.2 | 25 |
| 50 | Synthesis and Structures of Cadmium Carboxylate and Thiocarboxylate Compounds with a Sulfur-Rich Coordination Environment: Carboxylate Exchange Kinetics Involving Tris(2-mercapto-1-t-butylimidazolyl)hydroborato Cadmium Complexes, [Tm<sup>Bu<sup>t</sup></sup>]Cd(O<sub>2</sub>CR). Inorganic Chemistry, 2015, 54, 3835-3850. | 1.9 | 20 |
| 51 | Synthesis, structure and reactivity of [Tm<sup>But</sup>]ZnH, a monomeric terminal zinc hydride compound in a sulfur-rich coordination environment: access to a heterobimetallic compound. Chemical Communications, 2016, 52, 2358-2361. | 2.2 | 20 |
| 52 | Au/TiO<sub>2</sub>-Catalyzed Benzyl Alcohol Oxidation on Morphologically Precise Anatase Nanoparticles. ACS Applied Materials & Interfaces, 2021, 13, 11793-11804. | 4.0 | 20 |
| 53 | Molecular structures of tris(2-mercapto-1-tert-butylimidazolyl)hydroborato and tris(2-mercapto-1-adamantylimidazolyl)hydroborato sodium complexes: analysis of [TmR] ligand coordination modes and conformations. Dalton Transactions, 2014, 43, 10852. | 1.6 | 19 |
| 54 | Free Trions with Near-Unity Quantum Yield in Monolayer MoSe<sub>2</sub>. ACS Nano, 2022, 16, 140-147. | 7.3 | 19 |

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|---|---|---|---|
| 55 | Twoâ€Ðimensional Fullerene Assembly from an Exfoliated van der Waals Template. Angewandte Chemie - International Edition, 2018, 57, 6125-6129. | 7.2 | 18 |
| 56 | Precursor reaction kinetics control compositional grading and size of CdSe<sub>1â^'x</sub>S<sub>x</sub> nanocrystal heterostructures. Chemical Science, 2019, 10, 6539-6552. | 3.7 | 18 |
| 57 | Growth kinetics determine the polydispersity and size of PbS and PbSe nanocrystals. Chemical Science, 2022, 13, 4555-4565. | 3.7 | 18 |
| 58 | Localizing Seizure Activity in the Brain Using Implantable Microâ€ŁEDs with Quantum Dot Downconversion. Advanced Materials Technologies, 2018, 3, 1700366. | 3.0 | 14 |
| 59 | Size Dependent Optical Properties and Structure of ZnS Nanocrystals Prepared from a Library of Thioureas. Chemistry of Materials, 2022, 34, 706-717. | 3.2 | 14 |
| 60 | Size-Dependent Lattice Dynamics of Atomically Precise Cadmium Selenide Quantum Dots. Physical Review Letters, 2019, 122, 026101. | 2.9 | 12 |
| 61 | Persistent nucleation and size dependent attachment kinetics produce monodisperse PbS nanocrystals. Chemical Science, 2022, 13, 4977-4983. | 3.7 | 12 |
| 62 | Tris(2-mercaptoimidazolyl)hydroborato Cadmium Thiolate Complexes, [Tm<sup>Bu<sup>t</sup></sup>]CdSAr: Thiolate Exchange at Cadmium in a Sulfur-Rich Coordination Environment. Inorganic Chemistry, 2017, 56, 4643-4653. | 1.9 | 11 |
| 63 | Synthesis and Surface Chemistry of Cadmium Carboxylate Passivated CdTe Nanocrystals from Cadmium bis(Phenyltellurolate). Chemistry of Materials, 2016, 28, 227-233. | 3.2 | 10 |
| 64 | Relations between absorption, emission, and excited state chemical potentials from nanocrystal 2D spectra. Science Advances, 2021, 7, . | 4.7 | 10 |
| 65 | Twoâ€Ðimensional Fullerene Assembly from an Exfoliated van der Waals Template. Angewandte Chemie, 2018, 130, 6233-6237. | 1.6 | 6 |
| 66 | Performance of Spherical Quantum Well Down Converters in Solid State Lighting. ACS Applied Materials & Interfaces, 2021, 13, 12191-12197. | 4.0 | 6 |
| 67 | Exchange of alkyl and tris(2-mercapto-1-t-butylimidazolyl)hydroborato ligands between zinc, cadmium and mercury. Journal of Organometallic Chemistry, 2015, 792, 177-183. | 0.8 | 5 |
| 68 | Preface to the Chemistry of Materials Special Issue: Synthetic and Mechanistic Advances in Nanocrystal Growth. Chemistry of Materials, 2013, 25, 1153-1154. | 3.2 | 1 |
| 69 | Electrochemical potential control of charge state and fluorescence of nitrogen vacancy centers in nanodiamonds. , 2015, , . | | 1 |
| 70 | Persistent Nucleation and Size Dependent Attachment Kinetics Produce Monodisperse PbS Nanocrystals. , 0, , . | | 0 |