

Brandi Cossairt

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

83 papers	3,287 citations	32 h-index	56 g-index
118 ext. papers	3,808 ext. citations	9.7 avg, IF	5.91 L-index

#	Paper	IF	Citations
83	Semiconductor clusters and their use as precursors to nanomaterials 2022 , 165-200		0
82	Organic building blocks at inorganic nanomaterial interfaces. <i>Materials Horizons</i> , 2021 ,	14.4	1
81	CO Hydrogenation Catalyzed by a Ruthenium Protic N-Heterocyclic Carbene Complex. <i>Inorganic Chemistry</i> , 2021 , 60, 5996-6003	5.1	3
80	Surface Chemistry of Metal Phosphide Nanocrystals. <i>Annual Review of Materials Research</i> , 2021 , 51, 541-568	16.8	4
79	Surface Chemistry and Quantum Dot Luminescence: Shell Growth, Atomistic Modification, and Beyond. <i>ACS Energy Letters</i> , 2021 , 6, 977-984	20.1	10
78	Tuning the interfacial stoichiometry of InP core and InP/ZnSe core/shell quantum dots. <i>Journal of Chemical Physics</i> , 2021 , 155, 084701	3.9	3
77	Peptoid-directed assembly of CdSe nanoparticles. <i>Nanoscale</i> , 2021 , 13, 1273-1282	7.7	6
76	Elucidating the Location of Cd ²⁺ in Post-synthetically Treated InP Quantum Dots Using Dynamic Nuclear Polarization ³¹ P and ¹¹³ Cd Solid-State NMR Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 2956-2965	3.8	9
75	Covalent Functionalization of Nickel Phosphide Nanocrystals with Aryl-Diazonium Salts. <i>Chemistry of Materials</i> , 2021 , 33, 9652-9665	9.6	1
74	Seeded Growth of Nanoscale Semiconductor Tetrapods: Generality and the Role of Cation Exchange. <i>Chemistry of Materials</i> , 2020 , 32, 4774-4784	9.6	9
73	Modeling Equilibrium Binding at Quantum Dot Surfaces Using Cyclic Voltammetry. <i>Nano Letters</i> , 2020 , 20, 2620-2624	11.5	7
72	Designing nanoparticle interfaces for inner-sphere catalysis. <i>Dalton Transactions</i> , 2020 , 49, 4995-5005	4.3	11
71	Nucleation and Growth of Colloidal Semiconductor Nanoparticles 2020 , 1-11		
70	Synthesis and Spectroscopy of Emissive, Surface-Modified, Copper-Doped Indium Phosphide Nanocrystals 2020 , 2, 576-581		22
69	Covalently Linked, Two-Dimensional Quantum Dot Assemblies. <i>Langmuir</i> , 2020 , 36, 9944-9951	4	1
68	Probing the Surface Structure of Semiconductor Nanoparticles by DNP SENS with Dielectric Support Materials. <i>Journal of the American Chemical Society</i> , 2019 , 141, 15532-15546	16.4	24
67	Hydrogen on Cobalt Phosphide. <i>Journal of the American Chemical Society</i> , 2019 , 141, 15390-15402	16.4	20

66	Synthesis of In ₃ P ₂ O(O ₂ CR) ₅ Clusters and Their Conversion to InP Quantum Dots. <i>Journal of Visualized Experiments</i> , 2019 ,	1.6	2
65	Effect of Surface Ligands on CoP for the Hydrogen Evolution Reaction. <i>ACS Applied Energy Materials</i> , 2019 , 2, 1642-1645	6.1	24
64	Photolytic C-D Bond Cleavage with Quantum Dots. <i>Chemistry of Materials</i> , 2019 , 31, 2677-2682	9.6	17
63	Carboxylate Anchors Act as Exciton Reporters in 1.3 nm Indium Phosphide Nanoclusters. <i>Journal of Physical Chemistry Letters</i> , 2019 , 10, 1833-1839	6.4	16
62	Effects of Surface Chemistry on the Photophysics of Colloidal InP Nanocrystals. <i>ACS Nano</i> , 2019 , 13, 14198-14207	9.7	17
61	Quantifying Ligand Exchange on InP Using an Atomically Precise Cluster Platform. <i>Inorganic Chemistry</i> , 2019 , 58, 2840-2847	5.1	25
60	Effects of Zn and Ga doping on the quantum yield of cluster-derived InP quantum dots. <i>Journal of Chemical Physics</i> , 2019 , 151, 194702	3.9	10
59	Conversion of InP Clusters to Quantum Dots. <i>Inorganic Chemistry</i> , 2019 , 58, 803-810	5.1	26
58	Improved HER Catalysis through Facile, Aqueous Electrochemical Activation of Nanoscale WSe. <i>Nano Letters</i> , 2018 , 18, 2329-2335	11.5	48
57	Synthetic routes to a coordinatively unsaturated ruthenium complex supported by a tripodal, protic bis(N-heterocyclic carbene) phosphine ligand. <i>Dalton Transactions</i> , 2018 , 47, 1276-1283	4.3	8
56	Templated Growth of InP Nanocrystals with a Polytwistane Structure. <i>Angewandte Chemie</i> , 2018 , 130, 1926-1930	3.6	5
55	Templated Growth of InP Nanocrystals with a Polytwistane Structure. <i>Angewandte Chemie - International Edition</i> , 2018 , 57, 1908-1912	16.4	11
54	Kinetically controlled assembly of cadmium chalcogenide nanorods and nanorod heterostructures. <i>Materials Chemistry Frontiers</i> , 2018 , 2, 1296-1305	7.8	8
53	Reaction-Driven Nucleation Theory. <i>Journal of Physical Chemistry C</i> , 2018 , 122, 9671-9679	3.8	16
52	Aminophosphines as Versatile Precursors for the Synthesis of Metal Phosphide Nanocrystals. <i>Chemistry of Materials</i> , 2018 , 30, 5373-5379	9.6	39
51	Deterministic Positioning of Colloidal Quantum Dots on Silicon Nitride Nanobeam Cavities. <i>Nano Letters</i> , 2018 , 18, 6404-6410	11.5	29
50	Conversion Reactions of Atomically Precise Semiconductor Clusters. <i>Accounts of Chemical Research</i> , 2018 , 51, 2803-2810	24.3	31
49	SYNTHETIC ROUTE TO WHITE PHOSPHORUS (P ₄) AND ARSENIC TRIPHOSPHIDE (AsP ₃). <i>Inorganic Syntheses</i> , 2018 , 123-134		2

48	Probing Surface Defects of InP Quantum Dots Using Phosphorus K α and K β X-ray Emission Spectroscopy. <i>Chemistry of Materials</i> , 2018 , 30, 6377-6388	9.6	46
47	Synthesis of tailor-made colloidal semiconductor heterostructures. <i>Chemical Communications</i> , 2018 , 54, 7109-7122	5.8	12
46	4-1: Invited Paper: Role of Phosphorus Oxidation in Controlling the Luminescent Properties of Indium Phosphide Quantum Dots. <i>Digest of Technical Papers SID International Symposium</i> , 2018 , 49, 21-24	8.5	7
45	Main-Group-Semiconductor Cluster Molecules as Synthetic Intermediates to Nanostructures. <i>Inorganic Chemistry</i> , 2017 , 56, 8689-8697	5.1	40
44	Effect of Ligand Coverage on Hydrogen Evolution Catalyzed by Colloidal WSe ₂ . <i>ACS Catalysis</i> , 2017 , 7, 2815-2820	13.1	47
43	Quantifying Cation Exchange of Cd ²⁺ in ZnTe: A Challenge for Accessing Type II Heterostructures. <i>Chemistry of Materials</i> , 2017 , 29, 666-672	9.6	15
42	Cation Exchange Induced Transformation of InP Magic-Sized Clusters. <i>Chemistry of Materials</i> , 2017 , 29, 7984-7992	9.6	49
41	II V (II: Zn, Cd; V: P, As) Semiconductors: From Bulk Solids to Colloidal Nanocrystals. <i>Small</i> , 2017 , 13, 1702038	20.8	8
40	Synthesis of Zn ₃ As ₂ and (Cd _y Zn _{1-y}) ₃ As ₂ Colloidal Quantum Dots. <i>Chemistry of Materials</i> , 2017 , 29, 6195-6199	6.199	3
39	A compact dispersive refocusing Rowland circle X-ray emission spectrometer for laboratory, synchrotron, and XFEL applications. <i>Review of Scientific Instruments</i> , 2017 , 88, 073904	1.7	32
38	Purification and In Situ Ligand Exchange of Metal-Carboxylate-Treated Fluorescent InP Quantum Dots via Gel Permeation Chromatography. <i>Journal of Physical Chemistry Letters</i> , 2017 , 8, 4055-4060	6.4	16
37	Investigating the role of amine in InP nanocrystal synthesis: destabilizing cluster intermediates by Z-type ligand displacement. <i>Chemical Communications</i> , 2016 , 53, 161-164	5.8	44
36	Resolving the Chemistry of Zn ₃ P ₂ Nanocrystal Growth. <i>Chemistry of Materials</i> , 2016 , 28, 6374-6380	9.6	15
35	H ₂ Production Mediated by CO ₂ via Initial Reduction to Formate. <i>Organometallics</i> , 2016 , 35, 2778-2781	3.8	9
34	Gel permeation chromatography as a multifunctional processor for nanocrystal purification and on-column ligand exchange chemistry. <i>Chemical Science</i> , 2016 , 7, 5671-5679	9.4	24
33	Single-Crystal and Electronic Structure of a 1.3 nm Indium Phosphide Nanocluster. <i>Journal of the American Chemical Society</i> , 2016 , 138, 1510-3	16.4	118
32	Luminescent InP Quantum Dots with Tunable Emission by Post-Synthetic Modification with Lewis Acids. <i>Journal of Physical Chemistry Letters</i> , 2016 , 7, 1315-20	6.4	82
31	A doubly deprotonated diimine dioximate metalloligand as a synthon for multimetallic complex assembly. <i>Dalton Transactions</i> , 2016 , 45, 10068-75	4.3	6

30	Assembly and stabilization of {E(cyclo-P3)2} (E = Sn, Pb) as a bridging ligand spanning two triaryloxyniobium units. <i>Dalton Transactions</i> , 2016 , 45, 1891-5	4.3	7
29	Shining Light on Indium Phosphide Quantum Dots: Understanding the Interplay among Precursor Conversion, Nucleation, and Growth. <i>Chemistry of Materials</i> , 2016 , 28, 7181-7189	9.6	71
28	CdSe on a mesoporous transparent conducting oxide scaffold as a photocathode. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 14585-14591	13	6
27	Ternary synthesis of colloidal Zn3P2 quantum dots. <i>Chemical Communications</i> , 2015 , 51, 5283-6	5.8	30
26	Two-Step Nucleation and Growth of InP Quantum Dots via Magic-Sized Cluster Intermediates. <i>Chemistry of Materials</i> , 2015 , 27, 1432-1441	9.6	176
25	Investigation of Indium Phosphide Quantum Dot Nucleation and Growth Utilizing Triarylsilylphosphine Precursors. <i>Chemistry of Materials</i> , 2014 , 26, 1734-1744	9.6	89
24	Mono- and Dimetalation of a Tridentate Bisimidazole-Phosphine Ligand. <i>Organometallics</i> , 2014 , 33, 4341-4344	13.8	41
23	Conversion Reactions of Cadmium Chalcogenide Nanocrystal Precursors. <i>Chemistry of Materials</i> , 2013 , 25, 1233-1249	9.6	146
22	Role of Acid in Precursor Conversion During InP Quantum Dot Synthesis. <i>Chemistry of Materials</i> , 2013 , 25, 2463-2469	9.6	77
21	The importance of nanocrystal precursor conversion kinetics: mechanism of the reaction between cadmium carboxylate and cadmium bis(diphenyldithiophosphinate). <i>ACS Nano</i> , 2012 , 6, 10054-62	16.7	41
20	Microwave spectrum of arsenic triphosphide. <i>Journal of Molecular Spectroscopy</i> , 2012 , 278, 68-71	1.3	2
19	White phosphorus activation at a metal-phosphorus triple bond: a new route to cyclo-triphosphorus or cyclo-pentaphosphorus complexes of niobium. <i>Inorganic Chemistry</i> , 2011 , 50, 12349-58	5.1	28
18	Tuning the Surface Structure and Optical Properties of CdSe Clusters Using Coordination Chemistry. <i>Journal of Physical Chemistry Letters</i> , 2011 , 2, 3075-3080	6.4	56
17	CdSe Clusters: At the Interface of Small Molecules and Quantum Dots. <i>Chemistry of Materials</i> , 2011 , 23, 3114-3119	9.6	137
16	Die Bildung von cyclo-E42E-Einheiten (E4=P4, As4, AsP3) durch einen Komplex mit Chrom-Chrom-Füffachbindung. <i>Angewandte Chemie</i> , 2011 , 123, 7421-7424	3.6	53
15	Formation of cyclo-E4(2-) units (E4 =P4, As4, AsP3) by a complex with a Cr-Cr quintuple bond. <i>Angewandte Chemie - International Edition</i> , 2011 , 50, 7283-6	16.4	99
14	On the molecular and electronic structures of AsP3 and P4. <i>Journal of the American Chemical Society</i> , 2010 , 132, 8459-65	16.4	55
13	Radical synthesis of trialkyl, triaryl, trisilyl and tristannyl phosphines from P4. <i>New Journal of Chemistry</i> , 2010 , 34, 1533	3.6	68

12	Early-transition-metal-mediated activation and transformation of white phosphorus. <i>Chemical Reviews</i> , 2010 , 110, 4164-77	68.1	344
11	Molecular gallium arsenide phosphide clusters prepared from AsP(3), P(4), and $[\{\text{GaC}(\text{SiMe}_3)(3)\}(4)]$. <i>Chemistry - A European Journal</i> , 2010 , 16, 12603-8	4.8	7
10	Shuttling P3 from niobium to rhodium: the synthesis and use of $\text{Ph}_3\text{SnP}_3(\text{C}_6\text{H}_8)$ as a P3- synthon. <i>Angewandte Chemie - International Edition</i> , 2010 , 49, 1595-8	16.4	27
9	Facile synthesis of AsP3. <i>Science</i> , 2009 , 323, 602	33.3	101
8	Properties and reactivity patterns of AsP(3): an experimental and computational study of group 15 elemental molecules. <i>Journal of the American Chemical Society</i> , 2009 , 131, 15501-11	16.4	62
7	Phosphaalkenes as long-lived phosphorus cluster surface functional groups: intramolecular P=C addition to a niobium-supported P7 cage. <i>Inorganic Chemistry</i> , 2008 , 47, 9363-71	5.1	22
6	A reactive niobium phosphinidene P8 cluster obtained by reductive coupling of white phosphorus. <i>Angewandte Chemie - International Edition</i> , 2008 , 47, 169-72	16.4	39
5	A niobium-mediated cycle producing phosphorus-rich organic molecules from white phosphorus (P4) through activation, functionalization, and transfer reactions. <i>Angewandte Chemie - International Edition</i> , 2008 , 47, 8863-6	16.4	45
4	Experimental and theoretical studies of the reaction of the OH radical with alkyl sulfides: 1. Direct observations of the formation of the OH-DMS adduct-pressure dependence of the forward rate of addition and development of a predictive expression at low temperature. <i>Journal of Physical Chemistry A</i> , 2007 , 111, 89-104	2.8	32
3	Temperature and pressure dependent rate coefficients for the reaction of Hg with Br and the reaction of Br with Br: a pulsed laser photolysis-pulsed laser induced fluorescence study. <i>Journal of Physical Chemistry A</i> , 2006 , 110, 6623-32	2.8	120
2	Electrocatalytic hydrogen evolution by cobalt difluoroboryl-diglyoximate complexes. <i>Chemical Communications</i> , 2005 , 4723-5	5.8	232
1	Integrated Quantum Nanophotonics with Solution-Processed Materials. <i>Advanced Quantum Technologies</i> , 2005 , 2100078	4.3	0