Brandi Cossairt

List of Publications by Citations

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	Early-transition-metal-mediated activation and transformation of white phosphorus. *Chemical Reviews*, **2010**, 110, 4164-77	68.1	344
82	Electrocatalytic hydrogen evolution by cobalt difluoroboryl-diglyoximate complexes. *Chemical Communications*, **2005**, 4723-5	5.8	232
81	Two-Step Nucleation and Growth of InP Quantum Dots via Magic-Sized Cluster Intermediates. *Chemistry of Materials*, **2015**, 27, 1432-1441	9.6	176
80	Conversion Reactions of Cadmium Chalcogenide Nanocrystal Precursors. *Chemistry of Materials*, **2013**, 25, 1233-1249	9.6	146
79	CdSe Clusters: At the Interface of Small Molecules and Quantum Dots. *Chemistry of Materials*, **2011**, 23, 3114-3119	9.6	137
78	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. *Journal of Physical Chemistry A*, **2006**, 110, 6623-32	2.8	120
77	Single-Crystal and Electronic Structure of a 1.3 nm Indium Phosphide Nanocluster. *Journal of the American Chemical Society*, **2016**, 138, 1510-3	16.4	118
76	Facile synthesis of AsP3. *Science*, **2009**, 323, 602	33.3	101
75	Formation of cyclo-E4(2-) units (E4 =P4, As4, AsP3) by a complex with a Cr-Cr quintuple bond. *Angewandte Chemie - International Edition*, **2011**, 50, 7283-6	16.4	99
74	Investigation of Indium Phosphide Quantum Dot Nucleation and Growth Utilizing Triarylsilylphosphine Precursors. *Chemistry of Materials*, **2014**, 26, 1734-1744	9.6	89
73	Luminescent InP Quantum Dots with Tunable Emission by Post-Synthetic Modification with Lewis Acids. *Journal of Physical Chemistry Letters*, **2016**, 7, 1315-20	6.4	82
72	Role of Acid in Precursor Conversion During InP Quantum Dot Synthesis. *Chemistry of Materials*, **2013**, 25, 2463-2469	9.6	77
71	Shining Light on Indium Phosphide Quantum Dots: Understanding the Interplay among Precursor Conversion, Nucleation, and Growth. *Chemistry of Materials*, **2016**, 28, 7181-7189	9.6	71
70	Radical synthesis of trialkyl, triaryl, trisilyl and tristannyl phosphines from P4. *New Journal of Chemistry*, **2010**, 34, 1533	3.6	68
69	Properties and reactivity patterns of AsP(3): an experimental and computational study of group 15 elemental molecules. *Journal of the American Chemical Society*, **2009**, 131, 15501-11	16.4	62
68	Tuning the Surface Structure and Optical Properties of CdSe Clusters Using Coordination Chemistry. *Journal of Physical Chemistry Letters*, **2011**, 2, 3075-3080	6.4	56
67	On the molecular and electronic structures of AsP3 and P4. *Journal of the American Chemical Society*, **2010**, 132, 8459-65	16.4	55

66	Die Bildung von cyclo-E42□Einheiten (E4=P4, As4, AsP3) durch einen Komplex mit Chrom-Chrom-F□ffachbindung. *Angewandte Chemie*, **2011**, 123, 7421-7424	3.6	53
65	Cation Exchange Induced Transformation of InP Magic-Sized Clusters. *Chemistry of Materials*, **2017**, 29, 7984-7992	9.6	49
64	Improved HER Catalysis through Facile, Aqueous Electrochemical Activation of Nanoscale WSe. *Nano Letters*, **2018**, 18, 2329-2335	11.5	48
63	Effect of Ligand Coverage on Hydrogen Evolution Catalyzed by Colloidal WSe2. *ACS Catalysis*, **2017**, 7, 2815-2820	13.1	47
62	Effects of Surface Chemistry on the Photophysics of Colloidal InP Nanocrystals. *ACS Nano*, **2019**, 13, 14198-14207	13.7	47
61	Probing Surface Defects of InP Quantum Dots Using Phosphorus K□and K□X-ray Emission Spectroscopy. *Chemistry of Materials*, **2018**, 30, 6377-6388	9.6	46
60	A niobium-mediated cycle producing phosphorus-rich organic molecules from white phosphorus (P4) through activation, functionalization, and transfer reactions. *Angewandte Chemie - International Edition*, **2008**, 47, 8863-6	16.4	45
59	Investigating the role of amine in InP nanocrystal synthesis: destabilizing cluster intermediates by Z-type ligand displacement. *Chemical Communications*, **2016**, 53, 161-164	5.8	44
58	Mono- and Dimetalation of a Tridentate Bisimidazole-Phosphine Ligand. *Organometallics*, **2014**, 33, 4341-4344	3.8	41
57	The importance of nanocrystal precursor conversion kinetics: mechanism of the reaction between cadmium carboxylate and cadmium bis(diphenyldithiophosphinate). *ACS Nano*, **2012**, 6, 10054-62	16.7	41
56	Main-Group-Semiconductor Cluster Molecules as Synthetic Intermediates to Nanostructures. *Inorganic Chemistry*, **2017**, 56, 8689-8697	5.1	40
55	Aminophosphines as Versatile Precursors for the Synthesis of Metal Phosphide Nanocrystals. *Chemistry of Materials*, **2018**, 30, 5373-5379	9.6	39
54	A reactive niobium phosphinidene P8 cluster obtained by reductive coupling of white phosphorus. *Angewandte Chemie - International Edition*, **2008**, 47, 169-72	16.4	39
53	A compact dispersive refocusing Rowland circle X-ray emission spectrometer for laboratory, synchrotron, and XFEL applications. *Review of Scientific Instruments*, **2017**, 88, 073904	1.7	32
52	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. *Journal of Physical Chemistry A*, **2007**, 111, 89-104	2.8	32
51	Conversion Reactions of Atomically Precise Semiconductor Clusters. *Accounts of Chemical Research*, **2018**, 51, 2803-2810	24.3	31
50	Ternary synthesis of colloidal Zn3P2 quantum dots. *Chemical Communications*, **2015**, 51, 5283-6	5.8	30
49	Deterministic Positioning of Colloidal Quantum Dots on Silicon Nitride Nanobeam Cavities. *Nano Letters*, **2018**, 18, 6404-6410	11.5	29

48	White phosphorus activation at a metal-phosphorus triple bond: a new route to cyclo-triphosphorus or cyclo-pentaphosphorus complexes of niobium. *Inorganic Chemistry*, **2011**, 50, 12349-58	5.1	28
47	Shuttling P3 from niobium to rhodium: the synthesis and use of Ph3SnP3(C6H8) as a P3- synthon. *Angewandte Chemie - International Edition*, **2010**, 49, 1595-8	16.4	27
46	Conversion of InP Clusters to Quantum Dots. *Inorganic Chemistry*, **2019**, 58, 803-810	5.1	26
45	Quantifying Ligand Exchange on InP Using an Atomically Precise Cluster Platform. *Inorganic Chemistry*, **2019**, 58, 2840-2847	5.1	25
44	Probing the Surface Structure of Semiconductor Nanoparticles by DNP SENS with Dielectric Support Materials. *Journal of the American Chemical Society*, **2019**, 141, 15532-15546	16.4	24
43	Effect of Surface Ligands on CoP for the Hydrogen Evolution Reaction. *ACS Applied Energy Materials*, **2019**, 2, 1642-1645	6.1	24
42	Gel permeation chromatography as a multifunctional processor for nanocrystal purification and on-column ligand exchange chemistry. *Chemical Science*, **2016**, 7, 5671-5679	9.4	24
41	Synthesis and Spectroscopy of Emissive, Surface-Modified, Copper-Doped Indium Phosphide Nanocrystals **2020**, 2, 576-581		22
40	Phosphaalkenes as long-lived phosphorus cluster surface functional groups: intramolecular P=C addition to a niobium-supported P7 cage. *Inorganic Chemistry*, **2008**, 47, 9363-71	5.1	22
39	Hydrogen on Cobalt Phosphide. *Journal of the American Chemical Society*, **2019**, 141, 15390-15402	16.4	20
38	Photolytic C□O Bond Cleavage with Quantum Dots. *Chemistry of Materials*, **2019**, 31, 2677-2682	9.6	17
37	Carboxylate Anchors Act as Exciton Reporters in 1.3 nm Indium Phosphide Nanoclusters. *Journal of Physical Chemistry Letters*, **2019**, 10, 1833-1839	6.4	16
36	Reaction-Driven Nucleation Theory. *Journal of Physical Chemistry C*, **2018**, 122, 9671-9679	3.8	16
35	Purification and In Situ Ligand Exchange of Metal-Carboxylate-Treated Fluorescent InP Quantum Dots via Gel Permeation Chromatography. *Journal of Physical Chemistry Letters*, **2017**, 8, 4055-4060	6.4	16
34	Quantifying Cation Exchange of Cd2+ in ZnTe: A Challenge for Accessing Type II Heterostructures. *Chemistry of Materials*, **2017**, 29, 666-672	9.6	15
33	Resolving the Chemistry of Zn3P2 Nanocrystal Growth. *Chemistry of Materials*, **2016**, 28, 6374-6380	9.6	15
32	Synthesis of tailor-made colloidal semiconductor heterostructures. *Chemical Communications*, **2018**, 54, 7109-7122	5.8	12
31	Designing nanoparticle interfaces for inner-sphere catalysis. *Dalton Transactions*, **2020**, 49, 4995-5005	4.3	11

30	Templated Growth of InP Nanocrystals with a Polytwistane Structure. *Angewandte Chemie - International Edition*, **2018**, 57, 1908-1912	16.4	11
29	Effects of Zn and Ga doping on the quantum yield of cluster-derived InP quantum dots. *Journal of Chemical Physics*, **2019**, 151, 194702	3.9	10
28	Surface Chemistry and Quantum Dot Luminescence: Shell Growth, Atomistic Modification, and Beyond. *ACS Energy Letters*, **2021**, 6, 977-984	20.1	10
27	Seeded Growth of Nanoscale Semiconductor Tetrapods: Generality and the Role of Cation Exchange. *Chemistry of Materials*, **2020**, 32, 4774-4784	9.6	9
26	H2 Production Mediated by CO2 via Initial Reduction to Formate. *Organometallics*, **2016**, 35, 2778-2781	3.8	9
25	Elucidating the Location of Cd2+ in Post-synthetically Treated InP Quantum Dots Using Dynamic Nuclear Polarization 31P and 113Cd Solid-State NMR Spectroscopy. *Journal of Physical Chemistry C*, **2021**, 125, 2956-2965	3.8	9
24	Synthetic routes to a coordinatively unsaturated ruthenium complex supported by a tripodal, protic bis(N-heterocyclic carbene) phosphine ligand. *Dalton Transactions*, **2018**, 47, 1276-1283	4.3	8
23	Kinetically controlled assembly of cadmium chalcogenide nanorods and nanorod heterostructures. *Materials Chemistry Frontiers*, **2018**, 2, 1296-1305	7.8	8
22	II V (II: Zn, Cd; V: P, As) Semiconductors: From Bulk Solids to Colloidal Nanocrystals. *Small*, **2017**, 13, 1702038	13	8
21	Modeling Equilibrium Binding at Quantum Dot Surfaces Using Cyclic Voltammetry. *Nano Letters*, **2020**, 20, 2620-2624	11.5	7
20	Assembly and stabilization of {E(cyclo-P3)2} (E = Sn, Pb) as a bridging ligand spanning two triaryloxyniobium units. *Dalton Transactions*, **2016**, 45, 1891-5	4.3	7
19	Molecular gallium arsenide phosphide clusters prepared from AsP(3), P(4), and [{GaC(SiMe(3))(3)}(4)]. *Chemistry - A European Journal*, **2010**, 16, 12603-8	4.8	7
18	4-1: Invited Paper: Role of Phosphorus Oxidation in Controlling the Luminescent Properties of Indium Phosphide Quantum Dots. *Digest of Technical Papers SID International Symposium*, **2018**, 49, 21-24	0.5	7
17	CdSe on a mesoporous transparent conducting oxide scaffold as a photocathode. *Journal of Materials Chemistry A*, **2015**, 3, 14585-14591	13	6
16	A doubly deprotonated diimine dioximate metalloligand as a synthon for multimetallic complex assembly. *Dalton Transactions*, **2016**, 45, 10068-75	4.3	6
15	Peptoid-directed assembly of CdSe nanoparticles. *Nanoscale*, **2021**, 13, 1273-1282	7.7	6
14	Templated Growth of InP Nanocrystals with a Polytwistane Structure. *Angewandte Chemie*, **2018**, 130, 1926-1930	3.6	5
13	Surface Chemistry of Metal Phosphide Nanocrystals. *Annual Review of Materials Research*, **2021**, 51, 541-568	12.8	4

12	Synthesis of Zn3As2 and (CdyZn1−y)3As2 Colloidal Quantum Dots. *Chemistry of Materials*, **2017**, 29, 6195-6199	9.6	3
11	CO Hydrogenation Catalyzed by a Ruthenium Protic N-Heterocyclic Carbene Complex. *Inorganic Chemistry*, **2021**, 60, 5996-6003	5.1	3
10	Tuning the interfacial stoichiometry of InP core and InP/ZnSe core/shell quantum dots. *Journal of Chemical Physics*, **2021**, 155, 084701	3.9	3
9	Synthesis of In37P20(O2CR)51 Clusters and Their Conversion to InP Quantum Dots. *Journal of Visualized Experiments*, **2019**,	1.6	2
8	Microwave spectrum of arsenic triphosphide. *Journal of Molecular Spectroscopy*, **2012**, 278, 68-71	1.3	2
7	SYNTHETIC ROUTE TO WHITE PHOSPHORUS (P4) AND ARSENIC TRIPHOSPHIDE (AsP3). *Inorganic Syntheses*, **2018**, 123-134		2
6	Organic building blocks at inorganic nanomaterial interfaces. *Materials Horizons*, **2021**,	14.4	1
5	Covalently Linked, Two-Dimensional Quantum Dot Assemblies. *Langmuir*, **2020**, 36, 9944-9951	4	1
4	Covalent Functionalization of Nickel Phosphide Nanocrystals with Aryl-Diazonium Salts. *Chemistry of Materials*, **2021**, 33, 9652-9665	9.6	1
3	Integrated Quantum Nanophotonics with Solution-Processed Materials. *Advanced Quantum Technologies*,2100078	4.3	0
2	Semiconductor clusters and their use as precursors to nanomaterials **2022**, 165-200		0
1	Nucleation and Growth of Colloidal Semiconductor Nanoparticles **2020**, 1-11		