Brandi Cossairt

List of Publications by Year
in descending order

91 papers	4,270 citations	101496 36 h-index	114418 63 g-index
118 all docs	118 docs citations	118 times ranked	4098 citing authors

#	Article	IF	Citations
1	Early-Transition-Metal-Mediated Activation and Transformation of White Phosphorus. Chemical Reviews, 2010, 110, 4164-4177.	23.0	403
2	Electrocatalytic hydrogen evolution by cobalt difluoroboryl-diglyoximate complexes. Chemical Communications, 2005, , 4723.	2.2	256
3	Two-Step Nucleation and Growth of InP Quantum Dots via Magic-Sized Cluster Intermediates. Chemistry of Materials, 2015, 27, 1432-1441.	3.2	240
4	Conversion Reactions of Cadmium Chalcogenide Nanocrystal Precursors. Chemistry of Materials, 2013, 25, 1233-1249.	3.2	184
5	Single-Crystal and Electronic Structure of a 1.3 nm Indium Phosphide Nanocluster. Journal of the American Chemical Society, 2016, 138, 1510-1513.	6.6	164
6	CdSe Clusters: At the Interface of Small Molecules and Quantum Dots. Chemistry of Materials, 2011, 23, 3114-3119.	3.2	155
7	Temperature and Pressure Dependent Rate Coefficients for the Reaction of Hg with Br and the Reaction of Br with Br:Â A Pulsed Laser Photolysis-Pulsed Laser Induced Fluorescence Studyâ€. Journal of Physical Chemistry A, 2006, 110, 6623-6632.	1.1	135
8	Investigation of Indium Phosphide Quantum Dot Nucleation and Growth Utilizing Triarylsilylphosphine Precursors. Chemistry of Materials, 2014, 26, 1734-1744.	3.2	115
9	Formation of <i>cyclo</i>â€Œ₄^{2â^'} Units (E₄=P₄,) Tj ETQq1 1 0.784314 rgBT /Ov International Edition, 2011, 50, 7283-7286.	7.2	113
10	Facile Synthesis of AsP ₃. Science, 2009, 323, 602-602.	6.0	110
11	Luminescent InP Quantum Dots with Tunable Emission by Post-Synthetic Modification with Lewis Acids. Journal of Physical Chemistry Letters, 2016, 7, 1315-1320.	2.1	104
12	Shining Light on Indium Phosphide Quantum Dots: Understanding the Interplay among Precursor Conversion, Nucleation, and Growth. Chemistry of Materials, 2016, 28, 7181-7189.	3.2	103
13	Role of Acid in Precursor Conversion During InP Quantum Dot Synthesis. Chemistry of Materials, 2013, 25, 2463-2469.	3.2	90
14	Radical synthesis of trialkyl, triaryl, trisilyl and tristannyl phosphines from P4. New Journal of Chemistry, 2010, 34, 1533.	1.4	87
15	Effects of Surface Chemistry on the Photophysics of Colloidal InP Nanocrystals. ACS Nano, 2019, 13, 14198-14207.	7.3	71
16	Probing Surface Defects of InP Quantum Dots Using Phosphorus KÎ± and KÎ² X-ray Emission Spectroscopy. Chemistry of Materials, 2018, 30, 6377-6388.	3.2	70
17	Cation Exchange Induced Transformation of InP Magic-Sized Clusters. Chemistry of Materials, 2017, 29, 7984-7992.	3.2	67
18	Improved HER Catalysis through Facile, Aqueous Electrochemical Activation of Nanoscale WSe₂. Nano Letters, 2018, 18, 2329-2335.	4.5	66

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19	Properties and Reactivity Patterns of AsP₃: An Experimental and Computational Study of Group 15 Elemental Molecules. Journal of the American Chemical Society, 2009, 131, 15501-15511.	6.6	65
20	On the Molecular and Electronic Structures of AsP₃and P₄. Journal of the American Chemical Society, 2010, 132, 8459-8465.	6.6	65
21	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
22	Effect of Ligand Coverage on Hydrogen Evolution Catalyzed by Colloidal WSe₂. ACS Catalysis, 2017, 7, 2815-2820.	5.5	62
23	Investigating the role of amine in InP nanocrystal synthesis: destabilizing cluster intermediates by Z-type ligand displacement. Chemical Communications, 2017, 53, 161-164.	2.2	55
24	Main-Group-Semiconductor Cluster Molecules as Synthetic Intermediates to Nanostructures. Inorganic Chemistry, 2017, 56, 8689-8697.	1.9	54
25	Aminophosphines as Versatile Precursors for the Synthesis of Metal Phosphide Nanocrystals. Chemistry of Materials, 2018, 30, 5373-5379.	3.2	54
26	Deterministic Positioning of Colloidal Quantum Dots on Silicon Nitride Nanobeam Cavities. Nano Letters, 2018, 18, 6404-6410.	4.5	51
27	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
28	Conversion Reactions of Atomically Precise Semiconductor Clusters. Accounts of Chemical Research, 2018, 51, 2803-2810.	7.6	46
29	Conversion of InP Clusters to Quantum Dots. Inorganic Chemistry, 2019, 58, 803-810.	1.9	46
30	A Niobiumâ€Mediated Cycle Producing Phosphorusâ€Rich Organic Molecules from White Phosphorus (P₄) through Activation, Functionalization, and Transfer Reactions. Angewandte Chemie - International Edition, 2008, 47, 8863-8866.	7.2	45
31	Mono- and Dimetalation of a Tridentate Bisimidazole-Phosphine Ligand. Organometallics, 2014, 33, 4341-4344.	1.1	45
32	A Reactive Niobium Phosphinidene P₈ Cluster Obtained by Reductive Coupling of White Phosphorus. Angewandte Chemie - International Edition, 2008, 47, 169-172.	7.2	43
33	Hydrogen on Cobalt Phosphide. Journal of the American Chemical Society, 2019, 141, 15390-15402.	6.6	41
34	Gel permeation chromatography as a multifunctional processor for nanocrystal purification and on-column ligand exchange chemistry. Chemical Science, 2016, 7, 5671-5679.	3.7	40
35	A compact dispersive refocusing Rowland circle X-ray emission spectrometer for laboratory, synchrotron, and XFEL applications. Review of Scientific Instruments, 2017, 88, 073904.	0.6	40
36	Probing the Surface Structure of Semiconductor Nanoparticles by DNP SENS with Dielectric Support Materials. Journal of the American Chemical Society, 2019, 141, 15532-15546.	6.6	39

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37	Quantifying Ligand Exchange on InP Using an Atomically Precise Cluster Platform. Inorganic Chemistry, 2019, 58, 2840-2847.	1.9	39
38	Ternary synthesis of colloidal Zn₃P₂quantum dots. Chemical Communications, 2015, 51, 5283-5286.	2.2	35
39	Experimental and Theoretical Studies of the Reaction of the OH Radical with Alkyl Sulfides:Â 1. Direct Observations of the Formation of the OHâˆ’DMS Adductâˆ’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.	1.1	33
40	Shuttling P₃ from Niobium to Rhodium: The Synthesis and Use of Ph₃SnP₃(C₆H₈) as a P₃^{âˆ’} Synthon. Angewandte Chemie - International Edition, 2010, 49, 1595-1598.	7.2	32
41	White Phosphorus Activation at a Metalâ€“Phosphorus Triple Bond: a New Route to <i>cyclo</i>-Triphosphorus or <i>cyclo</i>-Pentaphosphorus Complexes of Niobium. Inorganic Chemistry, 2011, 50, 12349-12358.	1.9	32
42	Effect of Surface Ligands on CoP for the Hydrogen Evolution Reaction. ACS Applied Energy Materials, 2019, 2, 1642-1645.	2.5	32
43	Synthesis and Spectroscopy of Emissive, Surface-Modified, Copper-Doped Indium Phosphide Nanocrystals. , 2020, 2, 576-581.		31
44	Surface Chemistry and Quantum Dot Luminescence: Shell Growth, Atomistic Modification, and Beyond. ACS Energy Letters, 2021, 6, 977-984.	8.8	30
45	Photolytic Câ€“O Bond Cleavage with Quantum Dots. Chemistry of Materials, 2019, 31, 2677-2682.	3.2	29
46	Templated Growth of InP Nanocrystals with a Polytwistane Structure. Angewandte Chemie - International Edition, 2018, 57, 1908-1912.	7.2	25
47	Phosphaalkenes as Long-Lived Phosphorus Cluster Surface Functional Groups: Intramolecular Pâ•C Addition to a Niobium-Supported P₇ Cage. Inorganic Chemistry, 2008, 47, 9363-9371.	1.9	24
48	Carboxylate Anchors Act as Exciton Reporters in 1.3 nm Indium Phosphide Nanoclusters. Journal of Physical Chemistry Letters, 2019, 10, 1833-1839.	2.1	23
49	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.	2.1	21
50	Effects of Zn2+ and Ga3+ doping on the quantum yield of cluster-derived InP quantum dots. Journal of Chemical Physics, 2019, 151, 194702.	1.2	21
51	Quantifying Cation Exchange of Cd²⁺ in ZnTe: A Challenge for Accessing Type II Heterostructures. Chemistry of Materials, 2017, 29, 666-672.	3.2	20
52	Synthesis of tailor-made colloidal semiconductor heterostructures. Chemical Communications, 2018, 54, 7109-7122.	2.2	20
53	Reaction-Driven Nucleation Theory. Journal of Physical Chemistry C, 2018, 122, 9671-9679.	1.5	18
54	Seeded Growth of Nanoscale Semiconductor Tetrapods: Generality and the Role of Cation Exchange. Chemistry of Materials, 2020, 32, 4774-4784.	3.2	18

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55	Peptoid-directed assembly of CdSe nanoparticles. Nanoscale, 2021, 13, 1273-1282.	2.8	18
56	Organic building blocks at inorganic nanomaterial interfaces. Materials Horizons, 2022, 9, 61-87.	6.4	18
57	Resolving the Chemistry of Zn₃P₂ Nanocrystal Growth. Chemistry of Materials, 2016, 28, 6374-6380.	3.2	17
58	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.	1.5	16
59	Templated Growth of InP Nanocrystals with a Polytwistane Structure. Angewandte Chemie, 2018, 130, 1926-1930.	1.6	14
60	The Chemistry Women Mentorship Network (ChemWMN): A Tool for Creating Critical Mass in Academic Chemistry. Inorganic Chemistry, 2019, 58, 12493-12496.	1.9	14
61	II₃V₂ (II: Zn, Cd; V: P, As) Semiconductors: From Bulk Solids to Colloidal Nanocrystals. Small, 2017, 13, 1702038.	5.2	13
62	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.	1.6	13
63	Kinetically controlled assembly of cadmium chalcogenide nanorods and nanorod heterostructures. Materials Chemistry Frontiers, 2018, 2, 1296-1305.	3.2	12
64	Designing nanoparticle interfaces for inner-sphere catalysis. Dalton Transactions, 2020, 49, 4995-5005.	1.6	12
65	Molecular Gallium Arsenide Phosphide Clusters Prepared from AsP 3 , P 4 , and [{GaC(SiMe 3) 3 } 4]. Chemistry - A European Journal, 2010, 16, 12603-12608.	1.7	10
66	H₂ Production Mediated by CO₂ via Initial Reduction to Formate. Organometallics, 2016, 35, 2778-2781.	1.1	10
67	Modeling Equilibrium Binding at Quantum Dot Surfaces Using Cyclic Voltammetry. Nano Letters, 2020, 20, 2620-2624.	4.5	10
68	Surface Chemistry of Metal Phosphide Nanocrystals. Annual Review of Materials Research, 2021, 51, 541-564.	4.3	10
69	Tuning the interfacial stoichiometry of InP core and InP/ZnSe core/shell quantum dots. Journal of Chemical Physics, 2021, 155, 084701.	1.2	9
70	Covalent Functionalization of Nickel Phosphide Nanocrystals with Aryl-Diazonium Salts. Chemistry of Materials, 2021, 33, 9652-9665.	3.2	9
71	Impact of Nanoparticle Size and Surface Chemistry on Peptoid Self-Assembly. ACS Nano, 2022, 16, 8095-8106.	7.3	9
72	Assembly and stabilization of {E(cyclo-P₃)₂} (E = Sn, Pb) as a bridging ligand spanning two triaryloxyniobium units. Dalton Transactions, 2016, 45, 1891-1895.	1.6	8

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73	4â€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.	0.1	8
74	Direct intercalation of MoS₂ and WS₂ thin films by vacuum filtration. Materials Horizons, 2022, 9, 360-367.	6.4	8
75	CO₂ Hydrogenation Catalyzed by a Ruthenium Protic N-Heterocyclic Carbene Complex. Inorganic Chemistry, 2021, 60, 5996-6003.	1.9	7
76	Integrated Quantum Nanophotonics with Solutionâ€Processed Materials. Advanced Quantum Technologies, 2022, 5, 2100078.	1.8	7
77	CdSe on a mesoporous transparent conducting oxide scaffold as a photocathode. Journal of Materials Chemistry A, 2015, 3, 14585-14591.	5.2	6
78	A doubly deprotonated diimine dioximate metalloligand as a synthon for multimetallic complex assembly. Dalton Transactions, 2016, 45, 10068-10075.	1.6	6
79	Synthesis of Zn₃As₂ and (Cd_{<i>y</i>}Zn_{1â€"<i>y</i>})₃As₂ Colloidal Quantum Dots. Chemistry of Materials, 2017, 29, 6195-6199.	3.2	6
80	Synthesis of In₃₇P₂₀(O₂CR)₅₁ Clusters and Their Conversion to InP Quantum Dots. Journal of Visualized Experiments, 2019, , .	0.2	4
81	Covalently Linked, Two-Dimensional Quantum Dot Assemblies. Langmuir, 2020, 36, 9944-9951.	1.6	4
82	The Chemistry Women Mentorship Network (ChemWMN): A Tool for Creating Critical Mass in Academic Chemistry. ACS Central Science, 2019, 5, 1625-1629.	5.3	3
83	Checking in with Women Materials Scientists During a Global Pandemic: May 2020. Chemistry of Materials, 2020, 32, 4859-4862.	3.2	3
84	Microwave spectrum of arsenic triphosphide. Journal of Molecular Spectroscopy, 2012, 278, 68-71.	0.4	2
85	What IS Inorganic Chemistry?. Inorganic Chemistry, 2019, 58, 9515-9516.	1.9	2
86	The Chemistry Women Mentorship Network (ChemWMN): A Tool for Creating Critical Mass in Academic Chemistry. Chemistry of Materials, 2019, 31, 8239-8242.	3.2	1
87	Semiconductor clusters and their use as precursors to nanomaterials. , 2022, , 165-200.		1
88	(Invited) Interfacial Chemistry As an Enabling Tool in the Development of Transition Metal Phosphide Electrocatalysts. ECS Meeting Abstracts, 2021, MA2021-01, 1286-1286.	0.0	0
89	Deterministic positioning of colloidal quantum dots on silicon nitride nanobeam cavities. , 2019, , .		0
90	Understanding and Directing the Structure and Properties of Indium Phosphide Nanocrystals through Chemistry. , 0, , .		0

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91	(Invited)ÂSurface Chemistry and Intercalation As Strategies to Tune Reactivity in Colloidal Electrocatalysts. ECS Meeting Abstracts, 2018, MA2018-01, 1862-1862.	0.0	0