Brandi Cossairt

List of Publications by Year
in descending order

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91 papers	4,270 citations	101543 36 h-index	114465 63 g-index
118 all docs	118 docs citations	118 times ranked	4098 citing authors

#	Article	IF	Citations
1	Direct intercalation of MoS₂ and WS₂ thin films by vacuum filtration. Materials Horizons, 2022, 9, 360-367.	12.2	8
2	Organic building blocks at inorganic nanomaterial interfaces. Materials Horizons, 2022, 9, 61-87.	12.2	18
3	Integrated Quantum Nanophotonics with Solutionâ€Processed Materials. Advanced Quantum Technologies, 2022, 5, 2100078.	3.9	7
4	Semiconductor clusters and their use as precursors to nanomaterials. , 2022, , 165-200.		1
5	Impact of Nanoparticle Size and Surface Chemistry on Peptoid Self-Assembly. ACS Nano, 2022, 16, 8095-8106.	14.6	9
6	Surface Chemistry and Quantum Dot Luminescence: Shell Growth, Atomistic Modification, and Beyond. ACS Energy Letters, 2021, 6, 977-984.	17.4	30
7	CO₂ Hydrogenation Catalyzed by a Ruthenium Protic N-Heterocyclic Carbene Complex. Inorganic Chemistry, 2021, 60, 5996-6003.	4.0	7
8	(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
9	Surface Chemistry of Metal Phosphide Nanocrystals. Annual Review of Materials Research, 2021, 51, 541-564.	9.3	10
10	Tuning the interfacial stoichiometry of InP core and InP/ZnSe core/shell quantum dots. Journal of Chemical Physics, 2021, 155, 084701.	3.0	9
11	Peptoid-directed assembly of CdSe nanoparticles. Nanoscale, 2021, 13, 1273-1282.	5.6	18
12	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.	3.1	16
13	Covalent Functionalization of Nickel Phosphide Nanocrystals with Aryl-Diazonium Salts. Chemistry of Materials, 2021, 33, 9652-9665.	6.7	9
14	Covalently Linked, Two-Dimensional Quantum Dot Assemblies. Langmuir, 2020, 36, 9944-9951.	3.5	4
15	Seeded Growth of Nanoscale Semiconductor Tetrapods: Generality and the Role of Cation Exchange. Chemistry of Materials, 2020, 32, 4774-4784.	6.7	18
16	Checking in with Women Materials Scientists During a Global Pandemic: May 2020. Chemistry of Materials, 2020, 32, 4859-4862.	6.7	3
17	Modeling Equilibrium Binding at Quantum Dot Surfaces Using Cyclic Voltammetry. Nano Letters, 2020, 20, 2620-2624.	9.1	10
18	Designing nanoparticle interfaces for inner-sphere catalysis. Dalton Transactions, 2020, 49, 4995-5005.	3.3	12

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19	Synthesis and Spectroscopy of Emissive, Surface-Modified, Copper-Doped Indium Phosphide Nanocrystals. , 2020, 2, 576-581.		31
20	What IS Inorganic Chemistry?. Inorganic Chemistry, 2019, 58, 9515-9516.	4.0	2
21	The Chemistry Women Mentorship Network (ChemWMN): A Tool for Creating Critical Mass in Academic Chemistry. Inorganic Chemistry, 2019, 58, 12493-12496.	4.0	14
22	The Chemistry Women Mentorship Network (ChemWMN): A Tool for Creating Critical Mass in Academic Chemistry. ACS Central Science, 2019, 5, 1625-1629.	11.3	3
23	The Chemistry Women Mentorship Network (ChemWMN): A Tool for Creating Critical Mass in Academic Chemistry. Chemistry of Materials, 2019, 31, 8239-8242.	6.7	1
24	Effects of Surface Chemistry on the Photophysics of Colloidal InP Nanocrystals. ACS Nano, 2019, 13, 14198-14207.	14.6	71
25	Probing the Surface Structure of Semiconductor Nanoparticles by DNP SENS with Dielectric Support Materials. Journal of the American Chemical Society, 2019, 141, 15532-15546.	13.7	39
26	Hydrogen on Cobalt Phosphide. Journal of the American Chemical Society, 2019, 141, 15390-15402.	13.7	41
27	Synthesis of In₃₇P₂₀(O₂CR)₅₁ Clusters and Their Conversion to InP Quantum Dots. Journal of Visualized Experiments, 2019, , .	0.3	4
28	Effect of Surface Ligands on CoP for the Hydrogen Evolution Reaction. ACS Applied Energy Materials, 2019, 2, 1642-1645.	5.1	32
29	Photolytic Câ€“O Bond Cleavage with Quantum Dots. Chemistry of Materials, 2019, 31, 2677-2682.	6.7	29
30	Carboxylate Anchors Act as Exciton Reporters in 1.3 nm Indium Phosphide Nanoclusters. Journal of Physical Chemistry Letters, 2019, 10, 1833-1839.	4.6	23
31	Effects of Zn2+ and Ga3+ doping on the quantum yield of cluster-derived InP quantum dots. Journal of Chemical Physics, 2019, 151, 194702.	3.0	21
32	Conversion of InP Clusters to Quantum Dots. Inorganic Chemistry, 2019, 58, 803-810.	4.0	46
33	Quantifying Ligand Exchange on InP Using an Atomically Precise Cluster Platform. Inorganic Chemistry, 2019, 58, 2840-2847.	4.0	39
34	Deterministic positioning of colloidal quantum dots on silicon nitride nanobeam cavities. , 2019, , .		0
35	Improved HER Catalysis through Facile, Aqueous Electrochemical Activation of Nanoscale WSe₂. Nano Letters, 2018, 18, 2329-2335.	9.1	66
36	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.	3.3	13

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37	Templated Growth of InP Nanocrystals with a Polytwistane Structure. Angewandte Chemie, 2018, 130, 1926-1930.	2.0	14
38	Templated Growth of InP Nanocrystals with a Polytwistane Structure. Angewandte Chemie - International Edition, 2018, 57, 1908-1912.	13.8	25
39	Kinetically controlled assembly of cadmium chalcogenide nanorods and nanorod heterostructures. Materials Chemistry Frontiers, 2018, 2, 1296-1305.	5.9	12
40	Reaction-Driven Nucleation Theory. Journal of Physical Chemistry C, 2018, 122, 9671-9679.	3.1	18
41	Deterministic Positioning of Colloidal Quantum Dots on Silicon Nitride Nanobeam Cavities. Nano Letters, 2018, 18, 6404-6410.	9.1	51
42	Conversion Reactions of Atomically Precise Semiconductor Clusters. Accounts of Chemical Research, 2018, 51, 2803-2810.	15.6	46
43	Probing Surface Defects of InP Quantum Dots Using Phosphorus KÎ± and KÎ²2 X-ray Emission Spectroscopy. Chemistry of Materials, 2018, 30, 6377-6388.	6.7	70
44	Synthesis of tailor-made colloidal semiconductor heterostructures. Chemical Communications, 2018, 54, 7109-7122.	4.1	20
45	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.	0.3	8
46	Aminophosphines as Versatile Precursors for the Synthesis of Metal Phosphide Nanocrystals. Chemistry of Materials, 2018, 30, 5373-5379.	6.7	54
47	(Invited)ÂSurface Chemistry and Intercalation As Strategies to Tune Reactivity in Colloidal Electrocatalysts. ECS Meeting Abstracts, 2018, MA2018-01, 1862-1862.	0.0	0
48	Main-Group-Semiconductor Cluster Molecules as Synthetic Intermediates to Nanostructures. Inorganic Chemistry, 2017, 56, 8689-8697.	4.0	54
49	Investigating the role of amine in InP nanocrystal synthesis: destabilizing cluster intermediates by Z-type ligand displacement. Chemical Communications, 2017, 53, 161-164.	4.1	55
50	Effect of Ligand Coverage on Hydrogen Evolution Catalyzed by Colloidal WSe₂. ACS Catalysis, 2017, 7, 2815-2820.	11.2	62
51	Quantifying Cation Exchange of Cd²⁺ in ZnTe: A Challenge for Accessing Type II Heterostructures. Chemistry of Materials, 2017, 29, 666-672.	6.7	20
52	Cation Exchange Induced Transformation of InP Magic-Sized Clusters. Chemistry of Materials, 2017, 29, 7984-7992.	6.7	67
53	II₃V₂ (II: Zn, Cd; V: P, As) Semiconductors: From Bulk Solids to Colloidal Nanocrystals. Small, 2017, 13, 1702038.	10.0	13
54	Synthesis of Zn₃As₂ and (Cd_yZn_{1â€“y})₃As₂ Colloidal Quantum Dots. Chemistry of Materials, 2017, 29, 6195-6199.	6.7	6

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55	A compact dispersive refocusing Rowland circle X-ray emission spectrometer for laboratory, synchrotron, and XFEL applications. Review of Scientific Instruments, 2017, 88, 073904.	1.3	40
56	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.	4.6	21
57	Shining Light on Indium Phosphide Quantum Dots: Understanding the Interplay among Precursor Conversion, Nucleation, and Growth. Chemistry of Materials, 2016, 28, 7181-7189.	6.7	103
58	Resolving the Chemistry of Zn₃P₂ Nanocrystal Growth. Chemistry of Materials, 2016, 28, 6374-6380.	6.7	17
59	H₂ Production Mediated by CO₂ via Initial Reduction to Formate. Organometallics, 2016, 35, 2778-2781.	2.3	10
60	Gel permeation chromatography as a multifunctional processor for nanocrystal purification and on-column ligand exchange chemistry. Chemical Science, 2016, 7, 5671-5679.	7.4	40
61	Single-Crystal and Electronic Structure of a 1.3 nm Indium Phosphide Nanocluster. Journal of the American Chemical Society, 2016, 138, 1510-1513.	13.7	164
62	Luminescent InP Quantum Dots with Tunable Emission by Post-Synthetic Modification with Lewis Acids. Journal of Physical Chemistry Letters, 2016, 7, 1315-1320.	4.6	104
63	A doubly deprotonated diimine dioximate metalloligand as a synthon for multimetallic complex assembly. Dalton Transactions, 2016, 45, 10068-10075.	3.3	6
64	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.	3.3	8
65	Two-Step Nucleation and Growth of InP Quantum Dots via Magic-Sized Cluster Intermediates. Chemistry of Materials, 2015, 27, 1432-1441.	6.7	240
66	CdSe on a mesoporous transparent conducting oxide scaffold as a photocathode. Journal of Materials Chemistry A, 2015, 3, 14585-14591.	10.3	6
67	Ternary synthesis of colloidal Zn₃P₂quantum dots. Chemical Communications, 2015, 51, 5283-5286.	4.1	35
68	Investigation of Indium Phosphide Quantum Dot Nucleation and Growth Utilizing Triarylsilylphosphine Precursors. Chemistry of Materials, 2014, 26, 1734-1744.	6.7	115
69	Mono- and Dimetalation of a Tridentate Bisimidazole-Phosphine Ligand. Organometallics, 2014, 33, 4341-4344.	2.3	45
70	Conversion Reactions of Cadmium Chalcogenide Nanocrystal Precursors. Chemistry of Materials, 2013, 25, 1233-1249.	6.7	184
71	Role of Acid in Precursor Conversion During InP Quantum Dot Synthesis. Chemistry of Materials, 2013, 25, 2463-2469.	6.7	90
72	The Importance of Nanocrystal Precursor Conversion Kinetics: Mechanism of the Reaction between Cadmium Carboxylate and Cadmium Bis(diphenyldithiophosphinate). ACS Nano, 2012, 6, 10054-10062.	14.6	47

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73	Microwave spectrum of arsenic triphosphide. Journal of Molecular Spectroscopy, 2012, 278, 68-71.	1.2	2
74	White Phosphorus Activation at a Metalâ€“Phosphorus Triple Bond: a New Route to cyclo-Triphosphorus or cyclo-Pentaphosphorus Complexes of Niobium. Inorganic Chemistry, 2011, 50, 12349-12358.	4.0	32
75	Tuning the Surface Structure and Optical Properties of CdSe Clusters Using Coordination Chemistry. Journal of Physical Chemistry Letters, 2011, 2, 3075-3080.	4.6	62
76	CdSe Clusters: At the Interface of Small Molecules and Quantum Dots. Chemistry of Materials, 2011, 23, 3114-3119.	6.7	155
77	Formation of cycloâ€E₄^{2â^’} Units (E₄=P₄,) Tj ETQq1 1 0.784314 rgBT /Ov International Edition, 2011, 50, 7283-7286.	13.8	113
78	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.	3.3	10
79	Shuttling P₃ from Niobium to Rhodium: The Synthesis and Use of Ph₃SnP₃(C₆H₈) as a P₃^{â^’} Synthon. Angewandte Chemie - International Edition, 2010, 49, 1595-1598.	13.8	32
80	On the Molecular and Electronic Structures of AsP₃and P₄. Journal of the American Chemical Society, 2010, 132, 8459-8465.	13.7	65
81	Radical synthesis of trialkyl, triaryl, trisilyl and tristannyl phosphines from P4. New Journal of Chemistry, 2010, 34, 1533.	2.8	87
82	Early-Transition-Metal-Mediated Activation and Transformation of White Phosphorus. Chemical Reviews, 2010, 110, 4164-4177.	47.7	403
83	Facile Synthesis of AsP ₃. Science, 2009, 323, 602-602.	12.6	110
84	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.	13.7	65
85	A Reactive Niobium Phosphinidene P₈ Cluster Obtained by Reductive Coupling of White Phosphorus. Angewandte Chemie - International Edition, 2008, 47, 169-172.	13.8	43
86	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.	13.8	45
87	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.	4.0	24
88	Experimental and Theoretical Studies of the Reaction of the OH Radical with Alkyl Sulfides:Â 1. Direct Observations of the Formation of the OHâ^’DMS Adductâ^’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.	2.5	33
89	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.	2.5	135
90	Electrocatalytic hydrogen evolution by cobalt difluoroboryl-diglyoximate complexes. Chemical Communications, 2005, , 4723.	4.1	256

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91	Understanding and Directing the Structure and Properties of Indium Phosphide Nanocrystals through Chemistry. , 0, , .		0