

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
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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. <i>Chemical Reviews</i> , 2010, 110, 4164-4177.	47.7	403
2	Electrocatalytic hydrogen evolution by cobalt difluoroboryl-diglyoximate complexes. <i>Chemical Communications</i> , 2005, , 4723.	4.1	256
3	Two-Step Nucleation and Growth of InP Quantum Dots via Magic-Sized Cluster Intermediates. <i>Chemistry of Materials</i> , 2015, 27, 1432-1441.	6.7	240
4	Conversion Reactions of Cadmium Chalcogenide Nanocrystal Precursors. <i>Chemistry of Materials</i> , 2013, 25, 1233-1249.	6.7	184
5	Single-Crystal and Electronic Structure of a 1.3 nm Indium Phosphide Nanocluster. <i>Journal of the American Chemical Society</i> , 2016, 138, 1510-1513.	13.7	164
6	CdSe Clusters: At the Interface of Small Molecules and Quantum Dots. <i>Chemistry of Materials</i> , 2011, 23, 3114-3119.	6.7	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 Study. <i>Journal of Physical Chemistry A</i> , 2006, 110, 6623-6632.	2.5	135
8	Investigation of Indium Phosphide Quantum Dot Nucleation and Growth Utilizing Triarylsilylphosphine Precursors. <i>Chemistry of Materials</i> , 2014, 26, 1734-1744.	6.7	115
9	Formation of $\text{cyclo-E}_4\text{P}_4$ Units ($\text{E}_4=\text{P}_4$), <i>Tj ETQq1 1 0.784314 rgBT /Over International Edition</i> , 2011, 50, 7283-7286.	13.8	113
10	Facile Synthesis of AsP_3 . <i>Science</i> , 2009, 323, 602-602.	12.6	110
11	Luminescent InP Quantum Dots with Tunable Emission by Post-Synthetic Modification with Lewis Acids. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 1315-1320.	4.6	104
12	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.	6.7	103
13	Role of Acid in Precursor Conversion During InP Quantum Dot Synthesis. <i>Chemistry of Materials</i> , 2013, 25, 2463-2469.	6.7	90
14	Radical synthesis of trialkyl, triaryl, trisilyl and tristannyl phosphines from P_4 . <i>New Journal of Chemistry</i> , 2010, 34, 1533.	2.8	87
15	Effects of Surface Chemistry on the Photophysics of Colloidal InP Nanocrystals. <i>ACS Nano</i> , 2019, 13, 14198-14207.	14.6	71
16	Probing Surface Defects of InP Quantum Dots Using Phosphorus $\text{K}\alpha$ and $\text{K}\beta$ X-ray Emission Spectroscopy. <i>Chemistry of Materials</i> , 2018, 30, 6377-6388.	6.7	70
17	Cation Exchange Induced Transformation of InP Magic-Sized Clusters. <i>Chemistry of Materials</i> , 2017, 29, 7984-7992.	6.7	67
18	Improved HER Catalysis through Facile, Aqueous Electrochemical Activation of Nanoscale WSe_2 . <i>Nano Letters</i> , 2018, 18, 2329-2335.	9.1	66

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19	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, 15501-15511.	13.7	65
20	On the Molecular and Electronic Structures of AsP ₃ and P ₄ . <i>Journal of the American Chemical Society</i> , 2010, 132, 8459-8465.	13.7	65
21	Tuning the Surface Structure and Optical Properties of CdSe Clusters Using Coordination Chemistry. <i>Journal of Physical Chemistry Letters</i> , 2011, 2, 3075-3080.	4.6	62
22	Effect of Ligand Coverage on Hydrogen Evolution Catalyzed by Colloidal WSe ₂ . <i>ACS Catalysis</i> , 2017, 7, 2815-2820.	11.2	62
23	Investigating the role of amine in InP nanocrystal synthesis: destabilizing cluster intermediates by Z-type ligand displacement. <i>Chemical Communications</i> , 2017, 53, 161-164.	4.1	55
24	Main-Group-Semiconductor Cluster Molecules as Synthetic Intermediates to Nanostructures. <i>Inorganic Chemistry</i> , 2017, 56, 8689-8697.	4.0	54
25	Aminophosphines as Versatile Precursors for the Synthesis of Metal Phosphide Nanocrystals. <i>Chemistry of Materials</i> , 2018, 30, 5373-5379.	6.7	54
26	Deterministic Positioning of Colloidal Quantum Dots on Silicon Nitride Nanobeam Cavities. <i>Nano Letters</i> , 2018, 18, 6404-6410.	9.1	51
27	The Importance of Nanocrystal Precursor Conversion Kinetics: Mechanism of the Reaction between Cadmium Carboxylate and Cadmium Bis(diphenyldithiophosphate). <i>ACS Nano</i> , 2012, 6, 10054-10062.	14.6	47
28	Conversion Reactions of Atomically Precise Semiconductor Clusters. <i>Accounts of Chemical Research</i> , 2018, 51, 2803-2810.	15.6	46
29	Conversion of InP Clusters to Quantum Dots. <i>Inorganic Chemistry</i> , 2019, 58, 803-810.	4.0	46
30	A Niobium-Mediated Cycle Producing Phosphorus-Rich Organic Molecules from White Phosphorus (P ₄) through Activation, Functionalization, and Transfer Reactions. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 8863-8866.	13.8	45
31	Mono- and Dimetalation of a Tridentate Bisimidazole-Phosphine Ligand. <i>Organometallics</i> , 2014, 33, 4341-4344.	2.3	45
32	A Reactive Niobium Phosphinidene P ₈ Cluster Obtained by Reductive Coupling of White Phosphorus. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 169-172.	13.8	43
33	Hydrogen on Cobalt Phosphide. <i>Journal of the American Chemical Society</i> , 2019, 141, 15390-15402.	13.7	41
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.	7.4	40
35	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.	1.3	40
36	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.	13.7	39

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37	Quantifying Ligand Exchange on InP Using an Atomically Precise Cluster Platform. <i>Inorganic Chemistry</i> , 2019, 58, 2840-2847.	4.0	39
38	Ternary synthesis of colloidal Zn ₃ P ₂ quantum dots. <i>Chemical Communications</i> , 2015, 51, 5283-5286.	4.1	35
39	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.	2.5	33
40	Shuttling P ₃ from Niobium to Rhodium: The Synthesis and Use of Ph ₃ SnP ₃ (C ₆ H ₈) as a P ₃ ⁺ Synthone. <i>Angewandte Chemie - International Edition</i> , 2010, 49, 1595-1598.	13.8	32
41	White Phosphorus Activation at a Metal [•] Phosphorus Triple Bond: a New Route to <i>cyclo</i> -Triphosphorus or <i>cyclo</i> -Pentaphosphorus Complexes of Niobium. <i>Inorganic Chemistry</i> , 2011, 50, 12349-12358.	4.0	32
42	Effect of Surface Ligands on CoP for the Hydrogen Evolution Reaction. <i>ACS Applied Energy Materials</i> , 2019, 2, 1642-1645.	5.1	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. <i>ACS Energy Letters</i> , 2021, 6, 977-984.	17.4	30
45	Photolytic C=O Bond Cleavage with Quantum Dots. <i>Chemistry of Materials</i> , 2019, 31, 2677-2682.	6.7	29
46	Templated Growth of InP Nanocrystals with a Polytwistane Structure. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 1908-1912.	13.8	25
47	Phosphaalkenes as Long-Lived Phosphorus Cluster Surface Functional Groups: Intramolecular P=C Addition to a Niobium-Supported P ₇ Cage. <i>Inorganic Chemistry</i> , 2008, 47, 9363-9371.	4.0	24
48	Carboxylate Anchors Act as Exciton Reporters in 1.3 nm Indium Phosphide Nanoclusters. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 1833-1839.	4.6	23
49	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.	4.6	21
50	Effects of Zn ²⁺ and Ga ³⁺ doping on the quantum yield of cluster-derived InP quantum dots. <i>Journal of Chemical Physics</i> , 2019, 151, 194702.	3.0	21
51	Quantifying Cation Exchange of Cd ²⁺ in ZnTe: A Challenge for Accessing Type II Heterostructures. <i>Chemistry of Materials</i> , 2017, 29, 666-672.	6.7	20
52	Synthesis of tailor-made colloidal semiconductor heterostructures. <i>Chemical Communications</i> , 2018, 54, 7109-7122.	4.1	20
53	Reaction-Driven Nucleation Theory. <i>Journal of Physical Chemistry C</i> , 2018, 122, 9671-9679.	3.1	18
54	Seeded Growth of Nanoscale Semiconductor Tetrapods: Generality and the Role of Cation Exchange. <i>Chemistry of Materials</i> , 2020, 32, 4774-4784.	6.7	18

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55	Peptoid-directed assembly of CdSe nanoparticles. <i>Nanoscale</i> , 2021, 13, 1273-1282.	5.6	18
56	Organic building blocks at inorganic nanomaterial interfaces. <i>Materials Horizons</i> , 2022, 9, 61-87.	12.2	18
57	Resolving the Chemistry of Zn ₃ P ₂ Nanocrystal Growth. <i>Chemistry of Materials</i> , 2016, 28, 6374-6380.	6.7	17
58	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.	3.1	16
59	Templated Growth of InP Nanocrystals with a Polytwistane Structure. <i>Angewandte Chemie</i> , 2018, 130, 1926-1930.	2.0	14
60	The Chemistry Women Mentorship Network (ChemWMN): A Tool for Creating Critical Mass in Academic Chemistry. <i>Inorganic Chemistry</i> , 2019, 58, 12493-12496.	4.0	14
61	II ₃ V ₂ (II: Zn, Cd; V: P, As) Semiconductors: From Bulk Solids to Colloidal Nanocrystals. <i>Small</i> , 2017, 13, 1702038.	10.0	13
62	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.	3.3	13
63	Kinetically controlled assembly of cadmium chalcogenide nanorods and nanorod heterostructures. <i>Materials Chemistry Frontiers</i> , 2018, 2, 1296-1305.	5.9	12
64	Designing nanoparticle interfaces for inner-sphere catalysis. <i>Dalton Transactions</i> , 2020, 49, 4995-5005.	3.3	12
65	Molecular Gallium Arsenide Phosphide Clusters Prepared from AsP ₃ , P ₄ , and [GaC(SiMe ₃) ₃] ₄ . <i>Chemistry - A European Journal</i> , 2010, 16, 12603-12608.	3.3	10
66	H ₂ Production Mediated by CO ₂ via Initial Reduction to Formate. <i>Organometallics</i> , 2016, 35, 2778-2781.	2.3	10
67	Modeling Equilibrium Binding at Quantum Dot Surfaces Using Cyclic Voltammetry. <i>Nano Letters</i> , 2020, 20, 2620-2624.	9.1	10
68	Surface Chemistry of Metal Phosphide Nanocrystals. <i>Annual Review of Materials Research</i> , 2021, 51, 541-564.	9.3	10
69	Tuning the interfacial stoichiometry of InP core and InP/ZnSe core/shell quantum dots. <i>Journal of Chemical Physics</i> , 2021, 155, 084701.	3.0	9
70	Covalent Functionalization of Nickel Phosphide Nanocrystals with Aryl-Diazonium Salts. <i>Chemistry of Materials</i> , 2021, 33, 9652-9665.	6.7	9
71	Impact of Nanoparticle Size and Surface Chemistry on Peptoid Self-Assembly. <i>ACS Nano</i> , 2022, 16, 8095-8106.	14.6	9
72	Assembly and stabilization of {E(cyclo-P ₃) ₂ } (E = Sn, Pb) as a bridging ligand spanning two triaryloxyniobium units. <i>Dalton Transactions</i> , 2016, 45, 1891-1895.	3.3	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.	0.3	8
74	Direct intercalation of MoS ₂ and WS ₂ thin films by vacuum filtration. Materials Horizons, 2022, 9, 360-367.	12.2	8
75	CO ₂ Hydrogenation Catalyzed by a Ruthenium Protic N-Heterocyclic Carbene Complex. Inorganic Chemistry, 2021, 60, 5996-6003.	4.0	7
76	Integrated Quantum Nanophotonics with Solutionâ€­Processed Materials. Advanced Quantum Technologies, 2022, 5, 2100078.	3.9	7
77	CdSe on a mesoporous transparent conducting oxide scaffold as a photocathode. Journal of Materials Chemistry A, 2015, 3, 14585-14591.	10.3	6
78	A doubly deprotonated diimine dioximate metalloligand as a synthon for multimetallic complex assembly. Dalton Transactions, 2016, 45, 10068-10075.	3.3	6
79	Synthesis of Zn ₃ As ₂ and (Cd ₃ Zn ₁) ₃ As ₂ Colloidal Quantum Dots. Chemistry of Materials, 2017, 29, 6195-6199.	6.7	6
80	Synthesis of In ₃ P ₂₀ (O ₂ CR) ₅₁ Clusters and Their Conversion to InP Quantum Dots. Journal of Visualized Experiments, 2019, , .	0.3	4
81	Covalently Linked, Two-Dimensional Quantum Dot Assemblies. Langmuir, 2020, 36, 9944-9951.	3.5	4
82	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
83	Checking in with Women Materials Scientists During a Global Pandemic: May 2020. Chemistry of Materials, 2020, 32, 4859-4862.	6.7	3
84	Microwave spectrum of arsenic triphosphide. Journal of Molecular Spectroscopy, 2012, 278, 68-71.	1.2	2
85	What IS Inorganic Chemistry?. Inorganic Chemistry, 2019, 58, 9515-9516.	4.0	2
86	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
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) Surface Chemistry and Intercalation As Strategies to Tune Reactivity in Colloidal Electrocatalysts. ECS Meeting Abstracts, 2018, MA2018-01, 1862-1862.	0.0	0