Raffaella Buonsanti

List of Publications by Year
in descending order

118 papers	8,779 citations	50170 46 h-index	42291 92 g-index
122 all docs	122 docs citations	122 times ranked	11140 citing authors

#	Article	IF	Citations
1	Modulating the Reactivity of Liquid Ga Nanoparticle Inks by Modifying Their Surface Chemistry. Journal of the American Chemical Society, 2022, 144, 1993-2001.	6.6	20
2	Investigation of Ethylene and Propylene Production from CO₂ Reduction over Copper Nanocubes in an MEA-Type Electrolyzer. ACS Applied Materials & Interfaces, 2022, 14, 7779-7787.	4.0	22
3	Shaping Copper Nanocatalysts to Steer Selectivity in the Electrochemical CO₂ Reduction Reaction. Accounts of Chemical Research, 2022, 55, 629-637.	7.6	38
4	Colloidal-ALD-Grown Hybrid Shells Nucleate via a Ligandâ€"Precursor Complex. Journal of the American Chemical Society, 2022, 144, 3998-4008.	6.6	12
5	Well-Defined Copper-Based Nanocatalysts for Selective Electrochemical Reduction of CO₂ to C₂ Products. ACS Energy Letters, 2022, 7, 1284-1291.	8.8	63
6	Reaction intermediates in the synthesis of colloidal nanocrystals. , 2022, 1, 344-351.		13
7	The Native Oxide Skin of Liquid Metal Ga Nanoparticles Prevents Their Rapid Coalescence during Electrocatalysis. Journal of the American Chemical Society, 2022, 144, 10053-10063.	6.6	26
8	Copper Phosphonate Lamella Intermediates Control the Shape of Colloidal Copper Nanocrystals. Journal of the American Chemical Society, 2022, 144, 12261-12271.	6.6	8
9	Realâ€time Monitoring Reveals Dissolution/Redeposition Mechanism in Copper Nanocatalysts during the Initial Stages of the CO₂ Reduction Reaction. Angewandte Chemie, 2021, 133, 1367-1374.	1.6	25
10	Realâ€time Monitoring Reveals Dissolution/Redeposition Mechanism in Copper Nanocatalysts during the Initial Stages of the CO₂ Reduction Reaction. Angewandte Chemie - International Edition, 2021, 60, 1347-1354.	7.2	108
11	Colloidal Nanocrystals as Electrocatalysts with Tunable Activity and Selectivity. ACS Catalysis, 2021, 11, 1248-1295.	5.5	51
12	Colloidal Nanocrystals as Precursors and Intermediates in Solid State Reactions for Multinary Oxide Nanomaterials. Accounts of Chemical Research, 2021, 54, 754-764.	7.6	11
13	Magic clusters are better together. Nature Materials, 2021, 20, 580-581.	13.3	1
14	Synthetic Tunability of Colloidal Covalent Organic Framework/Nanocrystal Hybrids. Chemistry of Materials, 2021, 33, 2646-2654.	3.2	15
15	Elucidating the Facet-Dependent Selectivity for CO₂ Electroreduction to Ethanol of Cuâ€"Ag Tandem Catalysts. ACS Catalysis, 2021, 11, 4456-4463.	5.5	130
16	Copper Nanocrystal Morphology Determines the Viability of Molecular Surface Functionalization in Tuning Electrocatalytic Behavior in CO2 Reduction. Inorganic Chemistry, 2021, 60, 6939-6945.	1.9	3
17	The Inorganic Chemistry of Nanoparticles. Inorganic Chemistry, 2021, 60, 4179-4181.	1.9	0
18	Emerging collaborations at the forefront of growth in electrochemical synthesis. IScience, 2021, 24, 102639.	1.9	0

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19	Ligand Locking on Quantum Dot Surfaces via a Mild Reactive Surface Treatment. Journal of the American Chemical Society, 2021, 143, 13418-13427.	6.6	14
20	Developing the Chemistry of Colloidal Cu Nanocrystals to Advance the CO2 Electrochemical Reduction. Chimia, 2021, 75, 598-604.	0.3	0
21	Copper, my precious!. Nature Catalysis, 2021, 4, 736-737.	16.1	17
22	Deriving value from CO2: From catalyst design to industrial implementation. Chem Catalysis, 2021, 1, 751-753.	2.9	4
23	Photoluminescence emission induced by localized states in halide-passivated colloidal two-dimensional WS₂ nanoflakes. Journal of Materials Chemistry C, 2021, 9, 2398-2407.	2.7	3
24	Elucidating the structure-dependent selectivity of CuZn towards methane and ethanol in CO₂ electroreduction using tailored Cu/ZnO precatalysts. Chemical Science, 2021, 12, 14484-14493.	3.7	37
25	Theory-Guided Enhancement of CO₂ Reduction to Ethanol on Agâ€"Cu Tandem Catalysts via Particle-Size Effects. ACS Catalysis, 2021, 11, 13330-13336.	5.5	34
26	Shaping non-noble metal nanocrystals <i>via</i> colloidal chemistry. Chemical Science, 2020, 11, 11394-11403.	3.7	17
27	Ligand-mediated formation of Cu/metal oxide hybrid nanocrystals with tunable number of interfaces. Chemical Science, 2020, 11, 13094-13101.	3.7	10
28	Colloidal Synthesis of Cuâ€"Mâ€"S (M = V, Cr, Mn) Nanocrystals by Tuning the Copper Precursor Reactivity. Chemistry of Materials, 2020, 32, 9780-9786.	3.2	15
29	Atomic Control in Multicomponent Nanomaterials: when Colloidal Chemistry Meets Atomic Layer Deposition. , 2020, 2, 1182-1202.		8
30	Exploring the Chemical Reactivity of Gallium Liquid Metal Nanoparticles in Galvanic Replacement. Journal of the American Chemical Society, 2020, 142, 19283-19290.	6.6	54
31	Suitability of Cu-substituted Î²-Mn2V2O7 and Mn-substituted Î²-Cu2V2O7 for photocatalytic water-splitting. Journal of Chemical Physics, 2020, 153, 084704.	1.2	11
32	Nanocrystals as Precursors in Solid-State Reactions for Size- and Shape-Controlled Polyelemental Nanomaterials. Journal of the American Chemical Society, 2020, 142, 15931-15940.	6.6	21
33	Metalâ€"ligand bond strength determines the fate of organic ligands on the catalyst surface during the electrochemical CO₂ reduction reaction. Chemical Science, 2020, 11, 9296-9302.	3.7	35
34	Optimizing the Atomic Layer Deposition of Alumina on Perovskite Nanocrystal Films by Using O₂ As a Molecular Probe. Helvetica Chimica Acta, 2020, 103, e2000055.	1.0	8
35	Polymer Lamellae as Reaction Intermediates in the Formation of Copper Nanospheres as Evidenced by Inâ€…Situ Xâ€ray Studies. Angewandte Chemie, 2020, 132, 11724-11730.	1.6	3
36	Long-Range Exciton Diffusion in Two-Dimensional Assemblies of Cesium Lead Bromide Perovskite Nanocrystals. ACS Nano, 2020, 14, 6999-7007.	7.3	57

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37	Checking in with Women Materials Scientists During a Global Pandemic: May 2020. Chemistry of Materials, 2020, 32, 4859-4862.	3.2	3
38	Stability and Degradation Mechanisms of Copperâ€Based Catalysts for Electrochemical CO₂ Reduction. Angewandte Chemie, 2020, 132, 14844-14854.	1.6	88
39	Stability and Degradation Mechanisms of Copperâ€Based Catalysts for Electrochemical CO₂ Reduction. Angewandte Chemie - International Edition, 2020, 59, 14736-14746.	7.2	281
40	Facet-Dependent Selectivity of Cu Catalysts in Electrochemical CO₂ Reduction at Commercially Viable Current Densities. ACS Catalysis, 2020, 10, 4854-4862.	5.5	331
41	Polymer Lamellae as Reaction Intermediates in the Formation of Copper Nanospheres as Evidenced by Inâ€…Situ Xâ€ray Studies. Angewandte Chemie - International Edition, 2020, 59, 11627-11633.	7.2	12
42	Tunable Metal Oxide Shell as a Spacer to Study Energy Transfer in Semiconductor Nanocrystals. Journal of Physical Chemistry Letters, 2020, 11, 3430-3435.	2.1	13
43	Dual-Facet Mechanism in Copper Nanocubes for Electrochemical CO₂ Reduction into Ethylene. Journal of Physical Chemistry Letters, 2019, 10, 4259-4265.	2.1	52
44	Nanocrystal/Metalâ€"Organic Framework Hybrids as Electrocatalytic Platforms for CO₂ Conversion. Angewandte Chemie - International Edition, 2019, 58, 12632-12639.	7.2	112
45	Nanocrystal/Metalâ€"Organic Framework Hybrids as Electrocatalytic Platforms for CO 2 Conversion. Angewandte Chemie, 2019, 131, 12762-12769.	1.6	23
46	A solid advance in electrolytes. Nature Energy, 2019, 4, 728-729.	19.8	9
47	Insights into Reaction Intermediates to Predict Synthetic Pathways for Shape-Controlled Metal Nanocrystals. Journal of the American Chemical Society, 2019, 141, 16312-16322.	6.6	47
48	Universal Oxide Shell Growth Enables in Situ Structural Studies of Perovskite Nanocrystals during the Anion Exchange Reaction. Journal of the American Chemical Society, 2019, 141, 8254-8263.	6.6	92
49	Size dependent selectivity of Cu nano-octahedra catalysts for the electrochemical reduction of CO₂ to CH₄. Chemical Communications, 2019, 55, 8796-8799.	2.2	99
50	Synthesis of Cu/CeO_{2-x} Nanocrystalline Heterodimers with Interfacial Active Sites To Promote CO₂ Electroreduction. ACS Catalysis, 2019, 9, 5035-5046.	5.5	124
51	Understanding the mechanism of metal-induced degradation in perovskite nanocrystals. Nanoscale, 2019, 11, 19543-19550.	2.8	12
52	Exploring Energy Transfer in a Metal/Perovskite Nanocrystal Antenna to Drive Photocatalysis. Journal of Physical Chemistry Letters, 2019, 10, 7797-7803.	2.1	17
53	Molecular tunability of surface-functionalized metal nanocrystals for selective electrochemical CO₂ reduction. Chemical Science, 2019, 10, 10356-10365.	3.7	54
54	Synthesis and Size-Dependent Optical Properties of Intermediate Band Gap Cu₃VS₄ Nanocrystals. Chemistry of Materials, 2019, 31, 532-540.	3.2	39

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55	Structural Sensitivities in Bimetallic Catalysts for Electrochemical CO₂ Reduction Revealed by Agâ€“Cu Nanodimers. Journal of the American Chemical Society, 2019, 141, 2490-2499.	6.6	382
56	Colloidal Nanocrystals as Heterogeneous Catalysts for Electrochemical CO₂ Conversion. Chemistry of Materials, 2019, 31, 13-25.	3.2	91
57	Modulation of Carrier Type in Nanocrystal-in-Matrix Composites by Interfacial Doping. Chemistry of Materials, 2018, 30, 2544-2549.	3.2	1
58	Assembly of Î²-Cu₂V₂O₇/WO₃ heterostructured nanocomposites and the impact of their composition on structure and photoelectrochemical properties. Journal of Materials Chemistry C, 2018, 6, 12062-12069.	2.7	9
59	Sizable Excitonic Effects Undermining the Photocatalytic Efficiency of Î²-Cu₂V₂O₇. Journal of Physical Chemistry Letters, 2018, 9, 5698-5703.	2.1	24
60	Chemical transformations at the nanoscale: nanocrystal-seeded synthesis of Î²-Cu₂V₂O₇ with enhanced photoconversion efficiencies. Chemical Science, 2018, 9, 5658-5665.	3.7	27
61	Selective and Stable Electroreduction of CO₂ to CO at the Copper/Indium Interface. ACS Catalysis, 2018, 8, 6571-6581.	5.5	175
62	Quantitative 3D determination of self-assembled structures on nanoparticles using small angle neutron scattering. Nature Communications, 2018, 9, 1343.	5.8	54
63	Potential-induced nanoclustering of metallic catalysts during electrochemical CO2 reduction. Nature Communications, 2018, 9, 3117.	5.8	253
64	Colloidal nanocrystals for photoelectrochemical and photocatalytic water splitting. Journal Physics D: Applied Physics, 2017, 50, 074006.	1.3	25
65	Probing interfacial energetics and charge transfer kinetics in semiconductor nanocomposites: New insights into heterostructured TiO2/BiVO4 photoanodes. Nano Energy, 2017, 34, 375-384.	8.2	36
66	CsPbBr₃ QD/AlO_{<i>x</i>} Inorganic Nanocomposites with Exceptional Stability in Water, Light, and Heat. Angewandte Chemie - International Edition, 2017, 56, 10696-10701.	7.2	389
67	CsPbBr₃ QD/AlO_{<i>x</i>} Inorganic Nanocomposites with Exceptional Stability in Water, Light, and Heat. Angewandte Chemie, 2017, 129, 10836-10841.	1.6	25
68	InnenrÃ¼cktitelbild: CsPbBr₃ QD/AlO_{<i>x</i>} Inorganic Nanocomposites with Exceptional Stability in Water, Light, and Heat (Angew. Chem. 36/2017). Angewandte Chemie, 2017, 129, 11099-11099.	1.6	3
69	Tailoring Copper Nanocrystals towards C₂ Products in Electrochemical CO₂ Reduction. Angewandte Chemie, 2016, 128, 5883-5886.	1.6	90
70	Tailoring Copper Nanocrystals towards C₂ Products in Electrochemical CO₂ Reduction. Angewandte Chemie - International Edition, 2016, 55, 5789-5792.	7.2	667
71	Colloidal Chemistry to Advance Studies in Artificial Photosynthesis. Chimia, 2016, 70, 780.	0.3	1
72	Understanding the Formation Mechanism of Metal Nanocrystal@MOF-74 Hybrids. Chemistry of Materials, 2016, 28, 3839-3849.	3.2	50

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73	Bandgap Tunability in Sbâ€Alloyed BiVO₄ Quaternary Oxides as Visible Light Absorbers for Solar Fuel Applications. Advanced Materials, 2015, 27, 6733-6740.	11.1	38
74	Stabilization of Battery Electrode/Electrolyte Interfaces Employing Nanocrystals with Passivating Epitaxial Shells. Chemistry of Materials, 2015, 27, 394-399.	3.2	17
75	Fabrication of Planar Heterojunction Perovskite Solar Cells by Controlled Low-Pressure Vapor Annealing. Journal of Physical Chemistry Letters, 2015, 6, 493-499.	2.1	112
76	Colloidal Nanocrystal Frameworks. Advanced Materials, 2015, 27, 5820-5829.	11.1	19
77	Substitutional or Interstitial Site-Selective Nitrogen Doping in TiO₂ Nanostructures. Journal of Physical Chemistry C, 2015, 119, 7443-7452.	1.5	118
78	Nanocrystal Superlattice Embedded within an Inorganic Semiconducting Matrix by in Situ Ligand Exchange: Fabrication and Morphology. Chemistry of Materials, 2015, 27, 2755-2758.	3.2	10
79	Sub-micron Polymerâ€"Zeolitic Imidazolate Framework Layered Hybrids via Controlled Chemical Transformation of Naked ZnO Nanocrystal Films. Chemistry of Materials, 2015, 27, 7673-7679.	3.2	45
80	Constructing Functional Mesostructured Materials from Colloidal Nanocrystal Building Blocks. Accounts of Chemical Research, 2014, 47, 236-246.	7.6	50
81	NIR-Selective electrochromic heteromaterial frameworks: a platform to understand mesoscale transport phenomena in solid-state electrochemical devices. Journal of Materials Chemistry C, 2014, 2, 3328.	2.7	53
82	Synthesis and Phase Stability of Metastable Bixbyite V2O3Colloidal Nanocrystals. Chemistry of Materials, 2013, 25, 3172-3179.	3.2	40
83	Nb-Doped Colloidal TiO₂ Nanocrystals with Tunable Infrared Absorption. Chemistry of Materials, 2013, 25, 3383-3390.	3.2	177
84	Chemistry of Doped Colloidal Nanocrystals. Chemistry of Materials, 2013, 25, 1305-1317.	3.2	310
85	Nearâ€Infrared Spectrally Selective Plasmonic Electrochromic Thin Films. Advanced Optical Materials, 2013, 1, 215-220.	3.6	123
86	Carbonâ€Free TiO₂ Battery Electrodes Enabled by Morphological Control at the Nanoscale. Advanced Energy Materials, 2013, 3, 1286-1291.	10.2	41
87	Evolution of Ordered Metal Chalcogenide Architectures through Chemical Transformations. Journal of the American Chemical Society, 2013, 135, 7446-7449.	6.6	30
88	Nanocomposites of Titanium Dioxide and Polystyrene-Poly(ethylene oxide) Block Copolymer as Solid-State Electrolytes for Lithium Metal Batteries. Journal of the Electrochemical Society, 2013, 160, A1611-A1617.	1.3	96
89	Assembly of Ligand-Stripped Nanocrystals into Precisely Controlled Mesoporous Architectures. Nano Letters, 2012, 12, 3872-3877.	4.5	88
90	Efficient polymer passivation of ligandâ€stripped nanocrystal surfaces. Journal of Polymer Science Part A, 2012, 50, 3719-3727.	2.5	18

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91	General Method for the Synthesis of Hierarchical Nanocrystal-Based Mesoporous Materials. ACS Nano, 2012, 6, 6386-6399.	7.3	85
92	Exceptionally Mild Reactive Stripping of Native Ligands from Nanocrystal Surfaces by Using Meerweinâ€™s Salt. Angewandte Chemie - International Edition, 2012, 51, 684-689.	7.2	240
93	Tunneling Magnetoresistance with Sign Inversion in Junctions Based on Iron Oxide Nanocrystal Superlattices. ACS Nano, 2011, 5, 1731-1738.	7.3	34
94	Hyperbranched Anatase TiO₂Nanocrystals: Nonaqueous Synthesis, Growth Mechanism, and Exploitation in Dye-Sensitized Solar Cells. Journal of the American Chemical Society, 2011, 133, 19216-19239.	6.6	110
95	Dynamically Modulating the Surface Plasmon Resonance of Doped Semiconductor Nanocrystals. Nano Letters, 2011, 11, 4415-4420.	4.5	491
96	High-quality photoelectrodes based on shape-tailored TiO2 nanocrystals for dye-sensitized solar cells. Journal of Materials Chemistry, 2011, 21, 13371.	6.7	33
97	Tunable Infrared Absorption and Visible Transparency of Colloidal Aluminum-Doped Zinc Oxide Nanocrystals. Nano Letters, 2011, 11, 4706-4710.	4.5	443
98	Polyoxometalates and colloidal nanocrystals as building blocks for metal oxide nanocomposite films. Journal of Materials Chemistry, 2011, 21, 11631.	6.7	70
99	Correlating Magneto-Structural Properties to Hyperthermia Performance of Highly Monodisperse Iron Oxide Nanoparticles Prepared by a Seeded-Growth Route. Chemistry of Materials, 2011, 23, 4170-4180.	3.2	134
100	Formation and microscopic investigation of iron oxide aligned nanowires into polymeric nanocomposite films. Microscopy Research and Technique, 2010, 73, 952-958.	1.2	11
101	Dynamical Formation of Spatially Localized Arrays of Aligned Nanowires in Plastic Films with Magnetic Anisotropy. ACS Nano, 2010, 4, 1873-1878.	7.3	87
102	Architectural Control of Seeded-Grown Magneticâˆ'Semicondutor Iron Oxideâˆ'TiO₂ Nanorod Heterostructures: The Role of Seeds in Topology Selection. Journal of the American Chemical Society, 2010, 132, 2437-2464.	6.6	139
103	Magneticâ€"Fluorescent Colloidal Nanobeads: Preparation and Exploitation in Cell Separation Experiments. Macromolecular Bioscience, 2009, 9, 952-958.	2.1	66
104	Size, Shape, and Internal Atomic Ordering of Nanocrystals by Atomic Pair Distribution Functions: A Comparative Study of Î³-Fe₂O₃ Nanosized Spheres and Tetrapods. Journal of the American Chemical Society, 2009, 131, 14264-14266.	6.6	59
105	Colloidal semiconductor/magnetic heterostructures based on iron-oxide-functionalized brookite TiO2 nanorods. Physical Chemistry Chemical Physics, 2009, 11, 3680.	1.3	48
106	Colloidal Strategies for Preparing Oxideâ€Based Hybrid Nanocrystals. European Journal of Inorganic Chemistry, 2008, 2008, 837-854.	1.0	175
107	Water solubilization of hydrophobic nanocrystals by means of poly(maleic) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 102 Td (anhyc	6.7	133
108	Nonhydrolytic Synthesis of High-Quality Anisotropically Shaped Brookite TiO₂ Nanocrystals. Journal of the American Chemical Society, 2008, 130, 11223-11233.	6.6	247

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109	Advances in the Chemical Fabrication of Complex Multimaterial Nanocrystals. Recent Patents on Nanotechnology, 2007, 1, 224-232.	0.7	14
110	Seeded Growth of Asymmetric Binary Nanocrystals Made of a Semiconductor TiO_2Rodlike Section and a Magnetic Î³-Fe_2O_3Spherical Domain. Journal of the American Chemical Society, 2006, 128, 16953-16970.	6.6	163
111	Metal oxide shells for quantum dots by colloidal atomic layer deposition. , 0, , .		0
112	Mechanistic insights into the formation of Cu nanocrystals pave the way towards better catalysts to reduce CO_2. , 0, , .		0
113	Nanocrystal/Metal-Organic Framework Hybrids as Electrocatalytic Platform for CO_2 Conversion. , 0, , .		0
114	Facet Dependent Reactivity of Copper Nanocrystals for Electrochemical CO_2 Reduction to Valuable Products. , 0, , .		0
115	Metal Oxide Shell to Study Nanoscale Phenomena in Perovskite Quantum Dots. , 0, , .		0
116	Shape-controlled nanocrystals to unlock selectivity pathways in the electrochemical CO_2 reduction reaction. , 0, , .		0
117	Size Dependent Product Selectivity for Shape-Controlled Ag/Cu Tandem Catalysts. , 0, , .		0
118	Crystal-Phase Control of Ternary Metal Oxides by Solid-State Synthesis with Nanocrystals. ACS Nanoscience Au, 0, , .	2.0	3