Raffaella Buonsanti

List of Publications by Citations

101 papers	6,321 citations	40 h-index	79 g-index
122 ext. papers	7,564 ext. citations	11.8 avg, IF	6.29 L-index

#	Paper	IF	Citations
101	Tailoring Copper Nanocrystals towards C2 Products in Electrochemical CO2 Reduction. *Angewandte Chemie - International Edition*, **2016**, 55, 5789-92	16.4	481
100	Dynamically modulating the surface plasmon resonance of doped semiconductor nanocrystals. *Nano Letters*, **2011**, 11, 4415-20	11.5	423
99	Tunable infrared absorption and visible transparency of colloidal aluminum-doped zinc oxide nanocrystals. *Nano Letters*, **2011**, 11, 4706-10	11.5	396
98	CsPbBr QD/AlO Inorganic Nanocomposites with Exceptional Stability in Water, Light, and Heat. *Angewandte Chemie - International Edition*, **2017**, 56, 10696-10701	16.4	291
97	Chemistry of Doped Colloidal Nanocrystals. *Chemistry of Materials*, **2013**, 25, 1305-1317	9.6	267
96	Nonhydrolytic synthesis of high-quality anisotropically shaped brookite TiO2 nanocrystals. *Journal of the American Chemical Society*, **2008**, 130, 11223-33	16.4	224
95	Structural Sensitivities in Bimetallic Catalysts for Electrochemical CO Reduction Revealed by Ag-Cu Nanodimers. *Journal of the American Chemical Society*, **2019**, 141, 2490-2499	16.4	216
94	Exceptionally mild reactive stripping of native ligands from nanocrystal surfaces by using MeerweinTs salt. *Angewandte Chemie - International Edition*, **2012**, 51, 684-9	16.4	211
93	Facet-Dependent Selectivity of Cu Catalysts in Electrochemical CO Reduction at Commercially Viable Current Densities. *ACS Catalysis*, **2020**, 10, 4854-4862	13.1	164
92	Potential-induced nanoclustering of metallic catalysts during electrochemical CO reduction. *Nature Communications*, **2018**, 9, 3117	17.4	163
91	Colloidal Strategies for Preparing Oxide-Based Hybrid Nanocrystals. *European Journal of Inorganic Chemistry*, **2008**, 2008, 837-854	2.3	161
90	Seeded growth of asymmetric binary nanocrystals made of a semiconductor TiO2 rodlike section and a magnetic gamma-Fe2O3 spherical domain. *Journal of the American Chemical Society*, **2006**, 128, 16953-70	16.4	153
89	Nb-Doped Colloidal TiO2 Nanocrystals with Tunable Infrared Absorption. *Chemistry of Materials*, **2013**, 25, 3383-3390	9.6	143
88	Architectural control of seeded-grown magnetic-semicondutor iron oxide-TiO(2) nanorod heterostructures: the role of seeds in topology selection. *Journal of the American Chemical Society*, **2010**, 132, 2437-64	16.4	133
87	Stability and Degradation Mechanisms of Copper-Based Catalysts for Electrochemical CO Reduction. *Angewandte Chemie - International Edition*, **2020**, 59, 14736-14746	16.4	124
86	Water solubilization of hydrophobic nanocrystals by means of poly(maleic anhydride-alt-1-octadecene). *Journal of Materials Chemistry*, **2008**, 18, 1991		123
85	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	9.6	116

84	Selective and Stable Electroreduction of CO_2 to CO at the Copper/Indium Interface. *ACS Catalysis*, **2018**, 8, 6571-6581	13.1	115
83	Hyperbranched anatase TiO_2 nanocrystals: nonaqueous synthesis, growth mechanism, and exploitation in dye-sensitized solar cells. *Journal of the American Chemical Society*, **2011**, 133, 19216-39	16.4	106
82	Near-Infrared Spectrally Selective Plasmonic Electrochromic Thin Films. *Advanced Optical Materials*, **2013**, 1, 215-220	8.1	105
81	Fabrication of Planar Heterojunction Perovskite Solar Cells by Controlled Low-Pressure Vapor Annealing. *Journal of Physical Chemistry Letters*, **2015**, 6, 493-9	6.4	103
80	Substitutional or Interstitial Site-Selective Nitrogen Doping in TiO_2Nanostructures. *Journal of Physical Chemistry C*, **2015**, 119, 7443-7452	3.8	97
79	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	3.9	89
78	Assembly of ligand-stripped nanocrystals into precisely controlled mesoporous architectures. *Nano Letters*, **2012**, 12, 3872-7	11.5	81
77	General method for the synthesis of hierarchical nanocrystal-based mesoporous materials. *ACS Nano*, **2012**, 6, 6386-99	16.7	78
76	Dynamical formation of spatially localized arrays of aligned nanowires in plastic films with magnetic anisotropy. *ACS Nano*, **2010**, 4, 1873-8	16.7	78
75	Tailoring Copper Nanocrystals towards C2 Products in Electrochemical CO_2 Reduction. *Angewandte Chemie*, **2016**, 128, 5883-5886	3.6	77
74	Synthesis of Cu/CeO_{2-x} Nanocrystalline Heterodimers with Interfacial Active Sites To Promote CO_2 Electroreduction. *ACS Catalysis*, **2019**, 9, 5035-5046	13.1	71
73	Nanocrystal/Metal-Organic Framework Hybrids as Electrocatalytic Platforms for CO Conversion. *Angewandte Chemie - International Edition*, **2019**, 58, 12632-12639	16.4	71
72	Size dependent selectivity of Cu nano-octahedra catalysts for the electrochemical reduction of CO to CH. *Chemical Communications*, **2019**, 55, 8796-8799	5.8	66
71	Polyoxometalates and colloidal nanocrystals as building blocks for metal oxide nanocomposite films. *Journal of Materials Chemistry*, **2011**, 21, 11631		63
70	Magnetic-fluorescent colloidal nanobeads: preparation and exploitation in cell separation experiments. *Macromolecular Bioscience*, **2009**, 9, 952-8	5.5	63
69	Colloidal Nanocrystals as Heterogeneous Catalysts for Electrochemical CO_2 Conversion *Chemistry of Materials*, **2019**, 31, 13-25	9.6	59
68	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	16.4	56
67	Size, shape, and internal atomic ordering of nanocrystals by atomic pair distribution functions: a comparative study of gamma-Fe_2O_3 nanosized spheres and tetrapods. *Journal of the American Chemical Society*, **2009**, 131, 14264-6	16.4	55

66	Constructing functional mesostructured materials from colloidal nanocrystal building blocks. *Accounts of Chemical Research*, **2014**, 47, 236-46	24.3	46
65	Colloidal semiconductor/magnetic heterostructures based on iron-oxide-functionalized brookite TiO2 nanorods. *Physical Chemistry Chemical Physics*, **2009**, 11, 3680-91	3.6	46
64	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	7.1	45
63	Understanding the Formation Mechanism of Metal Nanocrystal@MOF-74 Hybrids. *Chemistry of Materials*, **2016**, 28, 3839-3849	9.6	44
62	Stability and Degradation Mechanisms of Copper-Based Catalysts for Electrochemical CO2 Reduction. *Angewandte Chemie*, **2020**, 132, 14844-14854	3.6	42
61	Sub-micron Polymer▯eolitic Imidazolate Framework Layered Hybrids via Controlled Chemical Transformation of Naked ZnO Nanocrystal Films. *Chemistry of Materials*, **2015**, 27, 7673-7679	9.6	38
60	Bandgap Tunability in Sb-Alloyed BiVO▯Quaternary Oxides as Visible Light Absorbers for Solar Fuel Applications. *Advanced Materials*, **2015**, 27, 6733-40	24	35
59	Carbon-Free TiO2 Battery Electrodes Enabled by Morphological Control at the Nanoscale. *Advanced Energy Materials*, **2013**, 3, 1286-1291	21.8	35
58	Real-time Monitoring Reveals Dissolution/Redeposition Mechanism in Copper Nanocatalysts during the Initial Stages of the CO Reduction Reaction. *Angewandte Chemie - International Edition*, **2021**, 60, 1347-1354	16.4	35
57	Elucidating the Facet-Dependent Selectivity for CO2 Electroreduction to Ethanol of Cu▯g Tandem Catalysts. *ACS Catalysis*, **2021**, 11, 4456-4463	13.1	34
56	Quantitative 3D determination of self-assembled structures on nanoparticles using small angle neutron scattering. *Nature Communications*, **2018**, 9, 1343	17.4	32
55	High-quality photoelectrodes based on shape-tailored TiO2 nanocrystals for dye-sensitized solar cells. *Journal of Materials Chemistry*, **2011**, 21, 13371		32
54	Molecular tunability of surface-functionalized metal nanocrystals for selective electrochemical CO reduction. *Chemical Science*, **2019**, 10, 10356-10365	9.4	32
53	Synthesis and Phase Stability of Metastable Bixbyite V2O3 Colloidal Nanocrystals. *Chemistry of Materials*, **2013**, 25, 3172-3179	9.6	31
52	Dual-Facet Mechanism in Copper Nanocubes for Electrochemical CO Reduction into Ethylene. *Journal of Physical Chemistry Letters*, **2019**, 10, 4259-4265	6.4	30
51	Probing interfacial energetics and charge transfer kinetics in semiconductor nanocomposites: New insights into heterostructured TiO2/BiVO4 photoanodes. *Nano Energy*, **2017**, 34, 375-384	17.1	29
50	Insights into Reaction Intermediates to Predict Synthetic Pathways for Shape-Controlled Metal Nanocrystals. *Journal of the American Chemical Society*, **2019**, 141, 16312-16322	16.4	29
49	Evolution of ordered metal chalcogenide architectures through chemical transformations. *Journal of the American Chemical Society*, **2013**, 135, 7446-9	16.4	27

48	Tunneling magnetoresistance with sign inversion in junctions based on iron oxide nanocrystal superlattices. *ACS Nano*, **2011**, 5, 1731-8	16.7	27
47	Long-Range Exciton Diffusion in Two-Dimensional Assemblies of Cesium Lead Bromide Perovskite Nanocrystals. *ACS Nano*, **2020**, 14, 6999-7007	16.7	26
46	Colloidal Nanocrystals as Electrocatalysts with Tunable Activity and Selectivity. *ACS Catalysis*, **2021**, 11, 1248-1295	13.1	26
45	Chemical transformations at the nanoscale: nanocrystal-seeded synthesis of ▯CuVO with enhanced photoconversion efficiencies. *Chemical Science*, **2018**, 9, 5658-5665	9.4	22
44	Synthesis and Size-Dependent Optical Properties of Intermediate Band Gap Cu3VS4 Nanocrystals. *Chemistry of Materials*, **2019**, 31, 532-540	9.6	21
43	Colloidal nanocrystals for photoelectrochemical and photocatalytic water splitting. *Journal Physics D: Applied Physics*, **2017**, 50, 074006	3	20
42	Sizable Excitonic Effects Undermining the Photocatalytic Efficiency of ▯CuVO. *Journal of Physical Chemistry Letters*, **2018**, 9, 5698-5703	6.4	18
41	Colloidal Nanocrystal Frameworks. *Advanced Materials*, **2015**, 27, 5820-9	24	17
40	CsPbBr3 QD/AlOx Inorganic Nanocomposites with Exceptional Stability in Water, Light, and Heat. *Angewandte Chemie*, **2017**, 129, 10836-10841	3.6	16
39	Stabilization of Battery Electrode/Electrolyte Interfaces Employing Nanocrystals with Passivating Epitaxial Shells. *Chemistry of Materials*, **2015**, 27, 394-399	9.6	16
38	Efficient polymer passivation of ligand-stripped nanocrystal surfaces. *Journal of Polymer Science Part A*, **2012**, 50, 3719-3727	2.5	16
37	Metal-ligand bond strength determines the fate of organic ligands on the catalyst surface during the electrochemical CO reduction reaction. *Chemical Science*, **2020**, 11, 9296-9302	9.4	16
36	Nanocrystal/Metal▯Organic Framework Hybrids as Electrocatalytic Platforms for CO2 Conversion. *Angewandte Chemie*, **2019**, 131, 12762-12769	3.6	14
35	Advances in the chemical fabrication of complex multimaterial nanocrystals. *Recent Patents on Nanotechnology*, **2007**, 1, 224-32	1.2	14
34	Exploring the Chemical Reactivity of Gallium Liquid Metal Nanoparticles in Galvanic Replacement. *Journal of the American Chemical Society*, **2020**, 142, 19283-19290	16.4	13
33	Exploring Energy Transfer in a Metal/Perovskite Nanocrystal Antenna to Drive Photocatalysis. *Journal of Physical Chemistry Letters*, **2019**, 10, 7797-7803	6.4	13
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	16.4	12
31	Shaping non-noble metal nanocrystals colloidal chemistry. *Chemical Science*, **2020**, 11, 11394-11403	9.4	10

30	Formation and microscopic investigation of iron oxide aligned nanowires into polymeric nanocomposite films. *Microscopy Research and Technique*, **2010**, 73, 952-8	2.8	9
29	Nanocrystal Superlattice Embedded within an Inorganic Semiconducting Matrix by in Situ Ligand Exchange: Fabrication and Morphology. *Chemistry of Materials*, **2015**, 27, 2755-2758	9.6	8
28	Colloidal Nanocrystals as Precursors and Intermediates in Solid State Reactions for Multinary Oxide Nanomaterials. *Accounts of Chemical Research*, **2021**, 54, 754-764	24.3	8
27	Optimizing the Atomic Layer Deposition of Alumina on Perovskite Nanocrystal Films by Using O2 As a Molecular Probe. *Helvetica Chimica Acta*, **2020**, 103, e2000055	2	7
26	Elucidating the structure-dependent selectivity of CuZn towards methane and ethanol in CO electroreduction using tailored Cu/ZnO precatalysts. *Chemical Science*, **2021**, 12, 14484-14493	9.4	7
25	Ligand-mediated formation of Cu/metal oxide hybrid nanocrystals with tunable number of interfaces. *Chemical Science*, **2020**, 11, 13094-13101	9.4	7
24	Colloidal Synthesis of Cu□M□ (M = V, Cr, Mn) Nanocrystals by Tuning the Copper Precursor Reactivity. *Chemistry of Materials*, **2020**, 32, 9780-9786	9.6	7
23	Tunable Metal Oxide Shell as a Spacer to Study Energy Transfer in Semiconductor Nanocrystals. *Journal of Physical Chemistry Letters*, **2020**, 11, 3430-3435	6.4	7
22	Real-time Monitoring Reveals Dissolution/Redeposition Mechanism in Copper Nanocatalysts during the Initial Stages of the CO2 Reduction Reaction. *Angewandte Chemie*, **2021**, 133, 1367-1374	3.6	7
21	Understanding the mechanism of metal-induced degradation in perovskite nanocrystals. *Nanoscale*, **2019**, 11, 19543-19550	7.7	6
20	Assembly of □Cu2V2O7/WO3 heterostructured nanocomposites and the impact of their composition on structure and photoelectrochemical properties. *Journal of Materials Chemistry C*, **2018**, 6, 12062-12069	7.1	6
19	Modulating the Reactivity of Liquid Ga Nanoparticle Inks by Modifying Their Surface Chemistry.. *Journal of the American Chemical Society*, **2022**,	16.4	5
18	Polymer Lamellae as Reaction Intermediates in the Formation of Copper Nanospheres as Evidenced by In Situ X-ray Studies. *Angewandte Chemie - International Edition*, **2020**, 59, 11627-11633	16.4	5
17	Atomic Control in Multicomponent Nanomaterials: when Colloidal Chemistry Meets Atomic Layer Deposition **2020**, 2, 1182-1202		4
16	Well-Defined Copper-Based Nanocatalysts for Selective Electrochemical Reduction of CO2 to C2 Products. *ACS Energy Letters*, **2022**, 7, 1284-1291	20.1	4
15	Synthetic Tunability of Colloidal Covalent Organic Framework/Nanocrystal Hybrids. *Chemistry of Materials*, **2021**, 33, 2646-2654	9.6	3
14	Ligand Locking on Quantum Dot Surfaces via a Mild Reactive Surface Treatment. *Journal of the American Chemical Society*, **2021**, 143, 13418-13427	16.4	3
13	Innenr□ktitelbild: CsPbBr3 QD/AlOx Inorganic Nanocomposites with Exceptional Stability in Water, Light, and Heat (Angew. Chem. 36/2017). *Angewandte Chemie*, **2017**, 129, 11099-11099	3.6	2

12	Crystal-Phase Control of Ternary Metal Oxides by Solid-State Synthesis with Nanocrystals. *ACS Nanoscience Au*,		2
11	Suitability of Cu-substituted MnVO and Mn-substituted CuVO for photocatalytic water-splitting. *Journal of Chemical Physics*, **2020**, 153, 084704	3.9	2
10	Copper Nanocrystal Morphology Determines the Viability of Molecular Surface Functionalization in Tuning Electrocatalytic Behavior in CO Reduction. *Inorganic Chemistry*, **2021**, 60, 6939-6945	5.1	2
9	Polymer Lamellae as Reaction Intermediates in the Formation of Copper Nanospheres as Evidenced by In Situ X-ray Studies. *Angewandte Chemie*, **2020**, 132, 11724-11730	3.6	1
8	Modulation of Carrier Type in Nanocrystal-in-Matrix Composites by Interfacial Doping. *Chemistry of Materials*, **2018**, 30, 2544-2549	9.6	1
7	Theory-Guided Enhancement of CO2 Reduction to Ethanol on Ag Cu Tandem Catalysts via Particle-Size Effects. *ACS Catalysis*,13330-13336	13.1	1
6	Colloidal Chemistry to Advance Studies in Artificial Photosynthesis. *Chimia*, **2016**, 70, 780-786	1.3	1
5	Deriving value from CO2: From catalyst design to industrial implementation. *Chem Catalysis*, **2021**, 1, 751-753		1
4	Photoluminescence emission induced by localized states in halide-passivated colloidal two-dimensional WS2 nanoflakes. *Journal of Materials Chemistry C*, **2021**, 9, 2398-2407	7.1	1
3	Reaction intermediates in the synthesis of colloidal nanocrystals **2022**, 1, 344-351		1
2	Magic clusters are better together. *Nature Materials*, **2021**, 20, 580-581	27	
1	Developing the Chemistry of Colloidal Cu Nanocrystals to Advance the CO Electrochemical Reduction. *Chimia*, **2021**, 75, 598-604	1.3	