Richard D Robinson

List of Publications by Citations

59 papers	7,785 citations	32 h-index	64 g-index
64 ext. papers	8,485 ext. citations	10.1 avg, IF	5.48 L-index

#	Paper	IF	Citations
59	Progress, challenges, and opportunities in two-dimensional materials beyond graphene. *ACS Nano*, **2013**, 7, 2898-926	16.7	3414
58	Size-dependent properties of CeO2□ nanoparticles as studied by Raman scattering. *Physical Review B*, **2001**, 64,	3.3	786
57	Spontaneous superlattice formation in nanorods through partial cation exchange. *Science*, **2007**, 317, 355-8	33.3	632
56	Cerium oxide nanoparticles: Size-selective formation and structure analysis. *Applied Physics Letters*, **2002**, 80, 127-129	3.4	558
55	Surfactant ligand removal and rational fabrication of inorganically connected quantum dots. *Nano Letters*, **2011**, 11, 5356-61	11.5	187
54	Phases in Ceria□irconia Binary Oxide (1□)CeO2□ZrO2 Nanoparticles: The Effect of Particle Size. *Journal of the American Ceramic Society*, **2006**, 89, 1028-1036	3.8	134
53	Solid-Solution Nanoparticles: Use of a Nonhydrolytic Sol□el Synthesis To Prepare HfO2 and HfxZr1-xO2 Nanocrystals. *Chemistry of Materials*, **2004**, 16, 1336-1342	9.6	128
52	Solid-solid phase transformations induced through cation exchange and strain in 2D heterostructured copper sulfide nanocrystals. *Nano Letters*, **2014**, 14, 7090-9	11.5	122
51	The structural evolution and diffusion during the chemical transformation from cobalt to cobalt phosphide nanoparticles. *Journal of Materials Chemistry*, **2011**, 21, 11498		120
50	Binder-free and carbon-free nanoparticle batteries: a method for nanoparticle electrodes without polymeric binders or carbon black. *Nano Letters*, **2012**, 12, 5122-30	11.5	114
49	The Oxidation of Cobalt Nanoparticles into Kirkendall-Hollowed CoO and Co3O4: The Diffusion Mechanisms and Atomic Structural Transformations. *Journal of Physical Chemistry C*, **2013**, 117, 14303-14312	4.8	112
48	Barium titanate nanocrystals and nanocrystal thin films: Synthesis, ferroelectricity, and dielectric properties. *Journal of Applied Physics*, **2006**, 100, 034316	2.5	111
47	Controlled synthesis of uniform cobalt phosphide hyperbranched nanocrystals using tri-n-octylphosphine oxide as a phosphorus source. *Nano Letters*, **2011**, 11, 188-97	11.5	103
46	Formation mechanism and properties of CdS-Ag2S nanorod superlattices. *ACS Nano*, **2008**, 2, 627-36	16.7	82
45	Defining Crystalline/Amorphous Phases of Nanoparticles through X-ray Absorption Spectroscopy and X-ray Diffraction: The Case of Nickel Phosphide. *Chemistry of Materials*, **2013**, 25, 2394-2403	9.6	81
44	A generic method for rational scalable synthesis of monodisperse metal sulfide nanocrystals. *Nano Letters*, **2012**, 12, 5856-60	11.5	80
43	Unintended phosphorus doping of nickel nanoparticles during synthesis with TOP: a discovery through structural analysis. *Nano Letters*, **2012**, 12, 4530-9	11.5	69

42	Enhanced Supercapacitor Performance for Equal Co Mn Stoichiometry in Colloidal Co3-xMnxO4 Nanoparticles, in Additive-Free Electrodes. *Chemistry of Materials*, **2015**, 27, 7861-7873	9.6	66
41	Electrophoretic deposition improves catalytic performance of Co3O4 nanoparticles for oxygen reduction/oxygen evolution reactions. *Journal of Materials Chemistry A*, **2015**, 3, 4274-4283	13	61
40	Observation of Fano asymmetry in Raman spectra of SrTiO3 and CaxSr1 TiO3 perovskite nanocubes. *Applied Physics Letters*, **2006**, 89, 223130	3.4	60
39	Visible thermal emission from sub-band-gap laser excited cerium dioxide particles. *Journal of Applied Physics*, **2002**, 92, 1936-1941	2.5	50
38	Prodigious Effects of Concentration Intensification on Nanoparticle Synthesis: A High-Quality, Scalable Approach. *Journal of the American Chemical Society*, **2015**, 137, 15843-51	16.4	46
37	Mesophase Formation Stabilizes High-Purity Magic-Sized Clusters. *Journal of the American Chemical Society*, **2018**, 140, 3652-3662	16.4	44
36	Chemical transformations of nanomaterials for energy applications. *Journal of Materials Chemistry A*, **2014**, 2, 5965-5978	13	44
35	Chemically reversible isomerization of inorganic clusters. *Science*, **2019**, 363, 731-735	33.3	42
34	Highly conductive Cu2-xS nanoparticle films through room-temperature processing and an order of magnitude enhancement of conductivity via electrophoretic deposition. *ACS Applied Materials & Interfaces*, **2014**, 6, 18911-20	9.5	39
33	Selective Etching of Copper Sulfide Nanoparticles and Heterostructures through Sulfur Abstraction: Phase Transformations and Optical Properties. *Chemistry of Materials*, **2016**, 28, 8530-8541	9.6	36
32	Nanomaterial datasets to advance tomography in scanning transmission electron microscopy. *Scientific Data*, **2016**, 3, 160041	8.2	36
31	A General Method for High-Performance Li-Ion Battery Electrodes from Colloidal Nanoparticles without the Introduction of Binders or Conductive-Carbon Additives: The Cases of MnS, Cu(2-x)S, and Ge. *ACS Applied Materials & Interfaces*, **2015**, 7, 25053-60	9.5	33
30	Nanocluster seed-mediated synthesis of CuInS2 quantum dots, nanodisks, nanorods, and doped Zn-CuInGaS2 quantum dots. *Journal of Materials Chemistry C*, **2015**, 3, 1044-1055	7.1	33
29	(NH4)2S, a highly reactive molecular precursor for low temperature anion exchange reactions in nanoparticles. *Dalton Transactions*, **2013**, 42, 12596-9	4.3	32
28	Raman microprobe analysis of elastic strain and fracture in electrophoretically deposited CdSe nanocrystal films. *Nano Letters*, **2006**, 6, 175-80	11.5	32
27	Direct measurements of surface scattering in Si nanosheets using a microscale phonon spectrometer: implications for Casimir-limit predicted by Ziman theory. *Nano Letters*, **2014**, 14, 403-15	11.5	28
26	Misfit layered Ca3Co4O9 as a high figure of merit p-type transparent conducting oxide film through solution processing. *Applied Physics Letters*, **2014**, 104, 161901	3.4	28
25	Surface chemistry of cadmium sulfide magic-sized clusters: a window into ligand-nanoparticle interactions. *Chemical Communications*, **2017**, 53, 2866-2869	5.8	27

24	Chalcogenidometallate Clusters as Surface Ligands for PbSe Nanocrystal Field-Effect Transistors. *Journal of Physical Chemistry C*, **2014**, 118, 3377-3385	3.8	27
23	Increased activity in hydrogen evolution electrocatalysis for partial anionic substitution in cobalt oxysulfide nanoparticles. *Journal of Materials Chemistry A*, **2016**, 4, 2842-2848	13	24
22	Scalable nanomanufacturing of millimetre-length 2D NaxCoO2 nanosheets. *Journal of Materials Chemistry*, **2012**, 22, 5936		18
21	Raman scattering in HfxZr1□O2 nanoparticles. *Physical Review B*, **2005**, 71,	3.3	18
20	Mn Cations Control Electronic Transport in Spinel CoxMn3□O4 Nanoparticles. *Chemistry of Materials*, **2019**, 31, 4228-4233	9.6	14
19	X-ray emission spectroscopy: an effective route to extract site occupation of cations. *Physical Chemistry Chemical Physics*, **2018**, 20, 28990-29000	3.6	14
18	Assessment of Soft Ligand Removal Strategies: Alkylation as a Promising Alternative to High-Temperature Treatments for Colloidal Nanoparticle Surfaces **2019**, 1, 177-184		13
17	Reconfigurable Nanorod Films: An in Situ Study of the Relationship between the Tunable Nanorod Orientation and the Optical Properties of Their Self-Assembled Thin Films. *Chemistry of Materials*, **2015**, 27, 2659-2665	9.6	12
16	Nanocrystal Symmetry Breaking and Accelerated Solid-State Diffusion in the Lead□Cadmium Sulfide Cation Exchange system. *Chemistry of Materials*, **2019**, 31, 991-1005	9.6	12
15	Analytical modeling of localized surface plasmon resonance in heterostructure copper sulfide nanocrystals. *Journal of Chemical Physics*, **2014**, 141, 164125	3.9	11
14	Tertiary Hierarchical Complexity in Assemblies of Sulfur-Bridged Metal Chiral Clusters. *Journal of the American Chemical Society*, **2020**, 142, 14495-14503	16.4	10
13	Synthesis and properties of electrically conductive, ductile, extremely long (~50 □m) nanosheets of K(x)CoO2□yH2O. *ACS Applied Materials & Interfaces*, **2013**, 5, 8998-9007	9.5	8
12	Design and operation of a microfabricated phonon spectrometer utilizing superconducting tunnel junctions as phonon transducers. *New Journal of Physics*, **2013**, 15, 043018	2.9	7
11	Non-equilibrium phonon generation and detection in microstructure devices. *Review of Scientific Instruments*, **2011**, 82, 104905	1.7	5
10	Breakdown of the Small-Polaron Hopping Model in Higher-Order Spinels. *Advanced Materials*, **2020**, 32, e2004490	24	5
9	Fe Cations Control the Plasmon Evolution in CuFeS2 Nanocrystals. *Chemistry of Materials*, **2021**, 33, 608-615	9.6	5
8	Interplay between Chemical Transformations and Atomic Structure in Nanocrystals and Nanoclusters. *Accounts of Chemical Research*, **2021**, 54, 509-519	24.3	4
7	Enhancement of phonon backscattering due to confinement of ballistic phonon pathways in silicon as studied with a microfabricated phonon spectrometer. *Applied Physics Letters*, **2015**, 107, 173102	3.4	1

6	Imaging atomic-scale chemistry from fused multi-modal electron microscopy. *Npj Computational Materials*, **2022**, 8,	10.9	1
5	Enhanced Li-ion diffusion and electrochemical performance in strained-manganese-iron oxide core-shell nanoparticles. *Journal of Chemical Physics*, **2021**, 155, 144702	3.9	1
4	Electronic Charge Transport: Breakdown of the Small-Polaron Hopping Model in Higher-Order Spinels (Adv. Mater. 49/2020). *Advanced Materials*, **2020**, 32, 2070368	24	
3	The Direct Electrospinning and Manipulation of Magic-Sized Cluster Quantum Dots. *Advanced Engineering Materials*,2100661	3.5	
2	Explanation of the Opposing Shifts in the Absorption Edge and the Optical Resonance in CuFeS2 Nanoparticles. *Journal of Physical Chemistry C*, **2022**, 126, 5592-5597	3.8	
1	The Direct Electrospinning and Manipulation of Magic-Sized Cluster Quantum Dots. *Advanced Engineering Materials*, **2021**, 23, 2170051	3.5	