Zeger Hens

List of Publications by Citations

217 papers	12,311 citations	54 h-index	105 g-index
264 ext. papers	14,259 ext. citations	8.9 avg, IF	6.52 L-index

#	Paper	IF	Citations
217	Highly Dynamic Ligand Binding and Light Absorption Coefficient of Cesium Lead Bromide Perovskite Nanocrystals. *ACS Nano*, **2016**, 10, 2071-81	16.7	1033
216	Prospects of nanoscience with nanocrystals. *ACS Nano*, **2015**, 9, 1012-57	16.7	849
215	Size-dependent optical properties of colloidal PbS quantum dots. *ACS Nano*, **2009**, 3, 3023-30	16.7	847
214	Composition and Size-Dependent Extinction Coefficient of Colloidal PbSe Quantum Dots. *Chemistry of Materials*, **2007**, 19, 6101-6106	9.6	434
213	Size-tunable, bright, and stable PbS quantum dots: a surface chemistry study. *ACS Nano*, **2011**, 5, 2004-12	16.7	364
212	A Solution NMR Toolbox for Characterizing the Surface Chemistry of Colloidal Nanocrystals. *Chemistry of Materials*, **2013**, 25, 1211-1221	9.6	342
211	Surface chemistry of colloidal PbSe nanocrystals. *Journal of the American Chemical Society*, **2008**, 130, 15081-6	16.4	318
210	Utilizing self-exchange to address the binding of carboxylic acid ligands to CdSe quantum dots. *Journal of the American Chemical Society*, **2010**, 132, 10195-201	16.4	262
209	Economic and Size-Tunable Synthesis of InP/ZnE (E = S, Se) Colloidal Quantum Dots.. *Chemistry of Materials*, **2015**, 27, 4893-4898	9.6	240
208	Binding of Phosphonic Acids to CdSe Quantum Dots: A Solution NMR Study. *Journal of Physical Chemistry Letters*, **2011**, 2, 145-152	6.4	207
207	Luminescence in Sulfides: A Rich History and a Bright Future. *Materials*, **2010**, 3, 2834-2883	3.5	195
206	Short-chain alcohols strip X-type ligands and quench the luminescence of PbSe and CdSe quantum dots, acetonitrile does not. *Journal of the American Chemical Society*, **2012**, 134, 20705-12	16.4	189
205	In situ observation of rapid ligand exchange in colloidal nanocrystal suspensions using transfer NOE nuclear magnetic resonance spectroscopy. *Journal of the American Chemical Society*, **2009**, 131, 3024-32	16.4	164
204	On the Origin of Surface Traps in Colloidal II–VI Semiconductor Nanocrystals. *Chemistry of Materials* , **2017**, 29, 752-761	9.6	160
203	Probing the wave function delocalization in CdSe/CdS dot-in-rod nanocrystals by time- and temperature-resolved spectroscopy. *ACS Nano*, **2011**, 5, 4031-6	16.7	135
202	Anisotropic Cation Exchange in PbSe/CdSe Core/Shell Nanocrystals of Different Geometry. *Chemistry of Materials*, **2012**, 24, 294-302	9.6	132
201	Light Absorption Coefficient of CsPbBr Perovskite Nanocrystals. *Journal of Physical Chemistry Letters*, **2018**, 9, 3093-3097	6.4	130

200	Interfacial Alloying in CdSe/CdS Heteronanocrystals: A Raman Spectroscopy Analysis. *Chemistry of Materials*, **2012**, 24, 311-318	9.6	128
199	Optical Properties of Zincblende Cadmium Selenide Quantum Dots. *Journal of Physical Chemistry C*, **2010**, 114, 6371-6376	3.8	118
198	Light absorption by colloidal semiconductor quantum dots. *Journal of Materials Chemistry*, **2012**, 22, 10406		117
197	PbTe|CdTe Core|Shell Particles by Cation Exchange, a HR-TEM study. *Chemistry of Materials*, **2009**, 21, 778-780	9.6	116
196	Silicon and silicon nitride photonic circuits for spectroscopic sensing on-a-chip [Invited]. *Photonics Research*, **2015**, 3, B47	6	113
195	Tuning the postfocused size of colloidal nanocrystals by the reaction rate: from theory to application. *ACS Nano*, **2012**, 6, 42-53	16.7	113
194	An integrated optic ethanol vapor sensor based on a silicon-on-insulator microring resonator coated with a porous ZnO film. *Optics Express*, **2010**, 18, 11859-66	3.3	111
193	Flash Synthesis of CdSe/CdS Core Shell Quantum Dots. *Chemistry of Materials*, **2014**, 26, 1154-1160	9.6	110
192	Hybrid remote quantum dot/powder phosphor designs for display backlights. *Light: Science and Applications*, **2017**, 6, e16271	16.7	107
191	Aminophosphines: A Double Role in the Synthesis of Colloidal Indium Phosphide Quantum Dots. *Journal of the American Chemical Society*, **2016**, 138, 5923-9	16.4	103
190	Novel Light Source Integration Approaches for Silicon Photonics. *Laser and Photonics Reviews*, **2017** , 11, 1700063	8.3	97
189	Nuclear Magnetic Resonance Spectroscopy Demonstrating Dynamic Stabilization of CdSe Quantum Dots by Alkylamines. *Journal of Physical Chemistry Letters*, **2010**, 1, 2577-2581	6.4	88
188	. *IEEE Journal of Selected Topics in Quantum Electronics*, **2014**, 20, 394-404	3.8	85
187	Colloidal CdSe Nanoplatelets, A Model for Surface Chemistry/Optoelectronic Property Relations in Semiconductor Nanocrystals. *Journal of the American Chemical Society*, **2018**, 140, 13292-13300	16.4	83
186	Unravelling the surface chemistry of metal oxide nanocrystals, the role of acids and bases. *Journal of the American Chemical Society*, **2014**, 136, 9650-7	16.4	81
185	Polymer-coated fluorescent CdSe-based quantum dots for application in immunoassay. *Biosensors and Bioelectronics*, **2014**, 53, 225-31	11.8	79
184	The different nature of band edge absorption and emission in colloidal PbSe/CdSe core/shell quantum dots. *ACS Nano*, **2011**, 5, 58-66	16.7	78
183	Ligand Displacement Exposes Binding Site Heterogeneity on CdSe Nanocrystal Surfaces. *Chemistry of Materials*, **2018**, 30, 1178-1186	9.6	77

182	Self-assembled multilayers of vertically aligned semiconductor nanorods on device-scale areas. *Advanced Materials*, **2011**, 23, 2205-9	24	77
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180	Continuous-wave infrared optical gain and amplified spontaneous emission at ultralow threshold by colloidal HgTe quantum dots. *Nature Materials*, **2018**, 17, 35-42	27	75
179	Probing Solvent□ligand Interactions in Colloidal Nanocrystals by the NMR Line Broadening. *Chemistry of Materials*, **2018**, 30, 5485-5492	9.6	72
178	Ligand adsorption/desorption on sterically stabilized InP colloidal nanocrystals: observation and thermodynamic analysis. *ChemPhysChem*, **2006**, 7, 1028-31	3.2	71
177	Cytotoxicity of cadmium-free quantum dots and their use in cell bioimaging. *Chemical Research in Toxicology*, **2014**, 27, 1050-9	4	70
176	A Library of Selenourea Precursors to PbSe Nanocrystals with Size Distributions near the Homogeneous Limit. *Journal of the American Chemical Society*, **2017**, 139, 2296-2305	16.4	68
175	Hydrophilic, bright CuInS2 quantum dots as Cd-free fluorescent labels in quantitative immunoassay. *Langmuir*, **2014**, 30, 7567-75	4	66
174	Development of a Rainbow Lateral Flow Immunoassay for the Simultaneous Detection of Four Mycotoxins. *Journal of Agricultural and Food Chemistry*, **2017**, 65, 7121-7130	5.7	64
173	Colloidal metal oxide nanocrystal catalysis by sustained chemically driven ligand displacement. *Nature Materials*, **2016**, 15, 517-21	27	62
172	Reaction chemistry/nanocrystal property relations in the hot injection synthesis, the role of the solute solubility. *ACS Nano*, **2013**, 7, 943-9	16.7	60
171	Carboxylic-Acid-passivated metal oxide nanocrystals: ligand exchange characteristics of a new binding motif. *Angewandte Chemie - International Edition*, **2015**, 54, 6488-91	16.4	60
170	Direct determination of absorption anisotropy in colloidal quantum rods. *Physical Review B*, **2012**, 85,	3.3	60
169	Nearly temperature-independent threshold for amplified spontaneous emission in colloidal CdSe/CdS quantum dot-in-rods. *Advanced Materials*, **2012**, 24, OP231-5	24	60
168	Photoluminescence properties of Co2+-doped ZnO nanocrystals. *Journal of Luminescence*, **2006**, 118, 245-250	3.8	59
167	Optical Properties of PbS/CdS Core/Shell Quantum Dots. *Journal of Physical Chemistry C*, **2013**, 117, 2013	3.8	2013 58
166	Selective and reversible ammonia gas detection with nanoporous film functionalized silicon photonic micro-ring resonator. *Optics Express*, **2012**, 20, 11855-62	3.3	56
165	Dielectric function of colloidal lead chalcogenide quantum dots obtained by a Kramers-Kr□ig analysis of the absorbance spectrum. *Physical Review B*, **2010**, 81,	3.3	55

164	Synthesis of Extremely Small CdSe and Bright Blue Luminescent CdSe/ZnS Nanoparticles by a Prefocused Hot-Injection Approach. *Chemistry of Materials*, **2009**, 21, 1743-1749	9.6	55
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162	Nearly Blinking-Free, High-Purity Single-Photon Emission by Colloidal InP/ZnSe Quantum Dots. *Nano Letters*, **2017**, 17, 6104-6109	11.5	54
161	Surface Chemistry of CuInS2 Colloidal Nanocrystals, Tight Binding of L-Type Ligands. *Chemistry of Materials*, **2014**, 26, 5950-5957	9.6	53
160	Dopant Incorporation in Colloidal Quantum Dots: A Case Study on Co2+ Doped ZnO. *Chemistry of Materials*, **2007**, 19, 5576-5583	9.6	53
159	Less is more. Cation exchange and the chemistry of the nanocrystal surface. *ACS Nano*, **2014**, 8, 7948-57	16.7	52
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139	Indium Phosphide-Based Quantum Dots with Shell-Enhanced Absorption for Luminescent Down-Conversion. *Advanced Materials*, **2017**, 29, 1700686	24	39
138	Multiple dot-in-rod PbS/CdS heterostructures with high photoluminescence quantum yield in the near-infrared. *Journal of the American Chemical Society*, **2012**, 134, 5484-7	16.4	39
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136	Chemically Triggered Formation of Two-Dimensional Epitaxial Quantum Dot Superlattices. *ACS Nano*, **2016**, 10, 6861-70	16.7	39
135	Active liquid crystal tuning of metallic nanoantenna enhanced light emission from colloidal quantum dots. *Nano Letters*, **2014**, 14, 5555-60	11.5	37
134	Synthesis of Hydrophilic CuInS2/ZnS Quantum Dots with Different Polymeric Shells and Study of Their Cytotoxicity and Hemocompatibility. *ACS Applied Materials & Interfaces*, **2016**, 8, 7613-22	9.5	36
133	On-Chip Arrayed Waveguide Grating Interrogated Silicon-on-Insulator Microring Resonator-Based Gas Sensor. *IEEE Photonics Technology Letters*, **2011**, 23, 1505-1507	2.2	36
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110	Coulomb Shifts upon Exciton Addition to Photoexcited PbS Colloidal Quantum Dots. *Journal of Physical Chemistry C*, **2014**, 118, 22284-22290	3.8	26
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89	Optimization of Charge Carrier Extraction in Colloidal Quantum Dots Short-Wave Infrared Photodiodes through Optical Engineering. *Advanced Functional Materials*, **2018**, 28, 1804502	15.6	19
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81	A comparative study demonstrates strong size tunability of carrier-phonon coupling in CdSe-based 2D and 0D nanocrystals. *Nanoscale*, **2019**, 11, 3958-3967	7.7	16
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79	Plasma enhanced atomic layer deposition of zinc sulfide thin films. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2017**, 35, 01B111	2.9	14
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64	Interface formation during silica encapsulation of colloidal CdSe/CdS quantum dots observed by in situ Raman spectroscopy. *Journal of Chemical Physics*, **2017**, 146, 134708	3.9	11
63	Impact of the Band-Edge Fine Structure on the Energy Transfer between Colloidal Quantum Dots. *Advanced Optical Materials*, **2014**, 2, 126-130	8.1	11
62	Carboxylic-Acid-Passivated Metal Oxide Nanocrystals: Ligand Exchange Characteristics of a New Binding Motif. *Angewandte Chemie*, **2015**, 127, 6588-6591	3.6	10
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