Victor I Klimov

List of Publications by Year in descending order

220 papers	38,807 citations	2098 100 h-index	2680 193 g-index
228 all docs	228 docs citations	228 times ranked	21740 citing authors

#	Article	IF	Citations
1	Optical Gain and Stimulated Emission in Nanocrystal Quantum Dots. Science, 2000, 290, 314-317.	6.0	2,586
2	High Efficiency Carrier Multiplication in PbSe Nanocrystals: Implications for Solar Energy Conversion. Physical Review Letters, 2004, 92, 186601.	2.9	1,643
3	Prospects of Nanoscience with Nanocrystals. ACS Nano, 2015, 9, 1012-1057.	7.3	1,005
4	Optical Nonlinearities and Ultrafast Carrier Dynamics in Semiconductor Nanocrystals. Journal of Physical Chemistry B, 2000, 104, 6112-6123.	1.2	909
5	Single-exciton optical gain in semiconductor nanocrystals. Nature, 2007, 447, 441-446.	13.7	894
6	â€œGiantâ€•Multishell CdSe Nanocrystal Quantum Dots with Suppressed Blinking. Journal of the American Chemical Society, 2008, 130, 5026-5027.	6.6	867
7	Spectral and Dynamical Properties of Multiexcitons in Semiconductor Nanocrystals. Annual Review of Physical Chemistry, 2007, 58, 635-673.	4.8	827
8	Spectroscopic and Device Aspects of Nanocrystal Quantum Dots. Chemical Reviews, 2016, 116, 10513-10622.	23.0	744
9	Mn²⁺-Doped Lead Halide Perovskite Nanocrystals with Dual-Color Emission Controlled by Halide Content. Journal of the American Chemical Society, 2016, 138, 14954-14961.	6.6	725
10	Efficient Synthesis of Highly Luminescent Copper Indium Sulfide-Based Core/Shell Nanocrystals with Surprisingly Long-Lived Emission. Journal of the American Chemical Society, 2011, 133, 1176-1179.	6.6	671
11	Two types of luminescence blinking revealed by spectroelectrochemistry of single quantum dots. Nature, 2011, 479, 203-207.	13.7	659
12	Controlling the influence of Auger recombination on the performance of quantum-dot light-emitting diodes. Nature Communications, 2013, 4, 2661.	5.8	605
13	Semiconductor quantum dots: Technological progress and future challenges. Science, 2021, 373, .	6.0	600
14	Large-area luminescent solar concentrators based on â€˜Stokes-shift-engineeredâ€™ nanocrystals in a mass-polymerized PMMA matrix. Nature Photonics, 2014, 8, 392-399.	15.6	568
15	Spectral and Dynamical Properties of Single Excitons, Biexcitons, and Trions in Cesiumâ€“Lead-Halide Perovskite Quantum Dots. Nano Letters, 2016, 16, 2349-2362.	4.5	533
16	Energy-transfer pumping of semiconductor nanocrystals using an epitaxial quantum well. Nature, 2004, 429, 642-646.	13.7	532
17	Mechanisms for Photogeneration and Recombination of Multiexcitons in Semiconductor Nanocrystals:â€‰ Implications for Lasing and Solar Energy Conversion. Journal of Physical Chemistry B, 2006, 110, 16827-16845.	1.2	468
18	Seven Excitons at a Cost of One:Â Redefining the Limits for Conversion Efficiency of Photons into Charge Carriers. Nano Letters, 2006, 6, 424-429.	4.5	464

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19	Femtosecond1P-to-1SElectron Relaxation in Strongly Confined Semiconductor Nanocrystals. Physical Review Letters, 1998, 80, 4028-4031.	2.9	463
20	Synthesis and Characterization of Co/CdSe Core/Shell Nanocomposites:Â Bifunctional Magnetic-Optical Nanocrystals. Journal of the American Chemical Society, 2005, 127, 544-546.	6.6	459
21	Room Temperature Single-Photon Emission from Individual Perovskite Quantum Dots. ACS Nano, 2015, 9, 10386-10393.	7.3	459
22	Suppressed Auger Recombination in â€œGiantâ€•Nanocrystals Boosts Optical Gain Performance. Nano Letters, 2009, 9, 3482-3488.	4.5	456
23	Highly efficient large-area colourless luminescent solar concentrators using heavy-metal-free colloidal quantum dots. Nature Nanotechnology, 2015, 10, 878-885.	15.6	448
24	High-efficiency carrier multiplication through direct photogeneration of multi-excitons via virtual single-exciton states. Nature Physics, 2005, 1, 189-194.	6.5	446
25	Pushing the Band Gap Envelope:Â Mid-Infrared Emitting Colloidal PbSe Quantum Dots. Journal of the American Chemical Society, 2004, 126, 11752-11753.	6.6	444
26	Utilizing the Lability of Lead Selenide to Produce Heterostructured Nanocrystals with Bright, Stable Infrared Emission. Journal of the American Chemical Society, 2008, 130, 4879-4885.	6.6	438
27	Controlled Alloying of the Coreâ€"Shell Interface in CdSe/CdS Quantum Dots for Suppression of Auger Recombination. ACS Nano, 2013, 7, 3411-3419.	7.3	417
28	Type-II Core/Shell CdS/ZnSe Nanocrystals:â€‰ Synthesis, Electronic Structures, and Spectroscopic Properties. Journal of the American Chemical Society, 2007, 129, 11708-11719.	6.6	402
29	New Aspects of Carrier Multiplication in Semiconductor Nanocrystals. Accounts of Chemical Research, 2008, 41, 1810-1819.	7.6	393
30	Multicolor Light-Emitting Diodes Based on Semiconductor Nanocrystals Encapsulated in GaN Charge Injection Layers. Nano Letters, 2005, 5, 1039-1044.	4.5	390
31	Multiple temperature regimes of radiative decay in CdSe nanocrystal quantum dots: Intrinsic limits to the dark-exciton lifetime. Applied Physics Letters, 2003, 82, 2793-2795.	1.5	371
32	â€˜Giantâ€™ CdSe/CdS Core/Shell Nanocrystal Quantum Dots As Efficient Electroluminescent Materials: Strong Influence of Shell Thickness on Light-Emitting Diode Performance. Nano Letters, 2012, 12, 331-336.	4.5	364
33	Color-selective semiconductor nanocrystal laser. Applied Physics Letters, 2002, 80, 4614-4616.	1.5	325
34	Continuous-wave lasing in colloidal quantum dot solids enabled by facet-selective epitaxy. Nature, 2017, 544, 75-79.	13.7	319
35	Universal Size-Dependent Trend in Auger Recombination in Direct-Gap and Indirect-Gap Semiconductor Nanocrystals. Physical Review Letters, 2009, 102, 177404.	2.9	314
36	Tunable Near-Infrared Optical Gain and Amplified Spontaneous Emission Using PbSe Nanocrystals. Journal of Physical Chemistry B, 2003, 107, 13765-13768.	1.2	302

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37	Breakdown of Volume Scaling in Auger Recombination in CdSe/CdS Heteronanocrystals: The Role of the Coreâˆ'Shell Interface. Nano Letters, 2011, 11, 687-693.	4.5	282
38	Carrier Multiplication in InAs Nanocrystal Quantum Dots with an Onset Defined by the Energy Conservation Limit. Nano Letters, 2007, 7, 3469-3476.	4.5	280
39	Tandem luminescent solar concentrators based on engineered quantum dots. Nature Photonics, 2018, 12, 105-110.	15.6	280
40	Effect of Zero- to One-Dimensional Transformation on Multiparticle Auger Recombination in Semiconductor Quantum Rods. Physical Review Letters, 2003, 91, 227401.	2.9	266
41	Effect of electronic structure on carrier multiplication efficiency: Comparative study of PbSe and CdSe nanocrystals. Applied Physics Letters, 2005, 87, 253102.	1.5	257
42	An integrated approach to realizing high-performance liquid-junction quantum dot sensitized solar cells. Nature Communications, 2013, 4, 2887.	5.8	255
43	Influence of Shell Thickness on the Performance of Lightâ€Emitting Devices Based on CdSe/Zn_{1â€X}Cd_XS Core/Shell Heterostructured Quantum Dots. Advanced Materials, 2014, 26, 8034-8040.	11.1	250
44	Hybrid Gold/Silica/Nanocrystal-Quantum-Dot Superstructures:Â Synthesis and Analysis of Semiconductorâˆ'Metal Interactions. Journal of the American Chemical Society, 2006, 128, 15362-15363.	6.6	249
45	Breaking the Phonon Bottleneck in Semiconductor Nanocrystals via Multiphonon Emission Induced by Intrinsic Nonadiabatic Interactions. Physical Review Letters, 2005, 95, 196401.	2.9	245
46	Role of mid-gap states in charge transport and photoconductivity in semiconductor nanocrystal films. Nature Communications, 2011, 2, 486.	5.8	236
47	Auger Recombination of Biexcitons and Negative and Positive Trions in Individual Quantum Dots. ACS Nano, 2014, 8, 7288-7296.	7.3	234
48	Effect of Air Exposure on Surface Properties, Electronic Structure, and Carrier Relaxation in PbSe Nanocrystals. ACS Nano, 2010, 4, 2021-2034.	7.3	230
49	Nanocrystal-Based Light-Emitting Diodes Utilizing High-Efficiency Nonradiative Energy Transfer for Color Conversion. Nano Letters, 2006, 6, 1396-1400.	4.5	226
50	Effect of the Thiolâˆ'Thiolate Equilibrium on the Photophysical Properties of Aqueous CdSe/ZnS Nanocrystal Quantum Dots. Journal of the American Chemical Society, 2005, 127, 10126-10127.	6.6	224
51	Nano-engineered electronâ€“hole exchange interaction controls exciton dynamics in coreâ€“shell semiconductor nanocrystals. Nature Communications, 2011, 2, 280.	5.8	223
52	Highly Effective Surface Passivation of PbSe Quantum Dots through Reaction with Molecular Chlorine. Journal of the American Chemical Society, 2012, 134, 20160-20168.	6.6	221
53	Inverted Core/Shell Nanocrystals Continuously Tunable between Type-I and Type-II Localization Regimes. Nano Letters, 2004, 4, 1485-1488.	4.5	218
54	Picosecond Energy Transfer in Quantum Dot Langmuirâˆ'Blodgett Nanoassemblies. Journal of Physical Chemistry B, 2003, 107, 13782-13787.	1.2	217

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55	Effect of Quantum and Dielectric Confinement on the Excitonâˆ’Exciton Interaction Energy in Type II Core/Shell Semiconductor Nanocrystals. Nano Letters, 2007, 7, 108-115.	4.5	217
56	Tunable magnetic exchange interactions inÂmanganese-doped inverted coreâ€“shell ZnSeâ€“CdSeÂnanocrystals. Nature Materials, 2009, 8, 35-40.	13.3	217
57	Apparent Versus True Carrier Multiplication Yields in Semiconductor Nanocrystals. Nano Letters, 2010, 10, 2049-2057.	4.5	214
58	PbSe Quantum Dot Solar Cells with More than 6% Efficiency Fabricated in Ambient Atmosphere. Nano Letters, 2014, 14, 6010-6015.	4.5	212
59	Scaling of multiexciton lifetimes in semiconductor nanocrystals. Physical Review B, 2008, 77, .	1.1	209
60	Photoinduced Charge Transfer between CdSe Nanocrystal Quantum Dots and Ruâˆ’Polypyridine Complexes. Journal of the American Chemical Society, 2006, 128, 9984-9985.	6.6	208
61	Lifetime blinking in nonblinking nanocrystal quantum dots. Nature Communications, 2012, 3, 908.	5.8	204
62	Optical gain in colloidal quantum dots achieved with direct-current electrical pumping. Nature Materials, 2018, 17, 42-49.	13.3	204
63	Multicarrier Interactions in Semiconductor Nanocrystals in Relation to the Phenomena of Auger Recombination and Carrier Multiplication. Annual Review of Condensed Matter Physics, 2014, 5, 285-316.	5.2	201
64	Doctor-blade deposition of quantum dots onto standard window glass for low-loss large-area luminescent solar concentrators. Nature Energy, 2016, 1, .	19.8	196
65	Colloidal quantum dot lasers. Nature Reviews Materials, 2021, 6, 382-401.	23.3	196
66	Droop-Free Colloidal Quantum Dot Light-Emitting Diodes. Nano Letters, 2018, 18, 6645-6653.	4.5	193
67	Detailed-balance power conversion limits of nanocrystal-quantum-dot solar cells in the presence of carrier multiplication. Applied Physics Letters, 2006, 89, 123118.	1.5	188
68	Effect of the Core/Shell Interface on Auger Recombination Evaluated by Single-Quantum-Dot Spectroscopy. Nano Letters, 2014, 14, 396-402.	4.5	188
69	Near-Unity Quantum Yields of Biexciton Emission from<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>CdSe</mml:mi><mml:mo>/</mml:mo><mml:mi>CdS</mml:mi></mml:math>Nanocrystals Measured Using Single-Particle Spectroscopy. Physical Review Letters, 2011, 106, 187401.	2.9	187
70	High-Efficiency Carrier Multiplication and Ultrafast Charge Separation in Semiconductor Nanocrystals Studied via Time-Resolved Photoluminescenceâ€. Journal of Physical Chemistry B, 2006, 110, 25332-25338.	1.2	184
71	Thick-Shell CuInS₂/ZnS Quantum Dots with Suppressed â€œBlinkingâ€•and Narrow Single-Particle Emission Line Widths. Nano Letters, 2017, 17, 1787-1795.	4.5	179
72	Copper-Doped Inverted Core/Shell Nanocrystals with â€œPermanentâ€•Optically Active Holes. Nano Letters, 2011, 11, 4753-4758.	4.5	176

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73	Light amplification in semiconductor nanocrystals: Quantum rods versus quantum dots. Applied Physics Letters, 2003, 82, 4776-4778.	1.5	171
74	Light Amplification Using Inverted Core/Shell Nanocrystals:Â Towards Lasing in the Single-Exciton Regime. Journal of Physical Chemistry B, 2004, 108, 10625-10630.	1.2	165
75	Effect of Auger Recombination on Lasing in Heterostructured Quantum Dots with Engineered Core/Shell Interfaces. Nano Letters, 2015, 15, 7319-7328.	4.5	163
76	Highly Emissive Multiexcitons in Steady-State Photoluminescence of Individual â€œGiantâ€•CdSe/CdS Core/Shell Nanocrystals. Nano Letters, 2010, 10, 2401-2407.	4.5	161
77	Carrier Multiplication in Semiconductor Nanocrystals: Influence of Size, Shape, and Composition. Accounts of Chemical Research, 2013, 46, 1261-1269.	7.6	161
78	Engineered CuInSe_{<i>x</i>}S_{2â€“<i>x</i>} Quantum Dots for Sensitized Solar Cells. Journal of Physical Chemistry Letters, 2013, 4, 355-361.	2.1	157
79	Quality Factor of Luminescent Solar Concentrators and Practical Concentration Limits Attainable with Semiconductor Quantum Dots. ACS Photonics, 2016, 3, 1138-1148.	3.2	154
80	Dipolar emitters at nanoscale proximity of metal surfaces: Giant enhancement of relaxation in microscopic theory. Physical Review B, 2004, 69, .	1.1	149
81	Size and Composition Dependent Multiple Exciton Generation Efficiency in PbS, PbSe, and PbS_{<i>x</i>}Se_{1â€“<i>x</i>} Alloyed Quantum Dots. Nano Letters, 2013, 13, 3078-3085.	4.5	149
82	Size-Dependent Intrinsic Radiative Decay Rates of Silicon Nanocrystals at Large Confinement Energies. Physical Review Letters, 2008, 100, 067401.	2.9	147
83	Enhanced carrier multiplication in engineered quasi-type-II quantum dots. Nature Communications, 2014, 5, 4148.	5.8	143
84	Highâ€Sensitivity pâ€“n Junction Photodiodes Based on PbS Nanocrystal Quantum Dots. Advanced Functional Materials, 2012, 22, 1741-1748.	7.8	139
85	Colloidal Synthesis of Infrared-Emitting Germanium Nanocrystals. Journal of the American Chemical Society, 2009, 131, 3436-3437.	6.6	137
86	Direct Observation of Dark Excitons in Individual Carbon Nanotubes: Inhomogeneity in the Exchange Splitting. Physical Review Letters, 2008, 101, 087402.	2.9	134
87	Tuning Radiative Recombination in Cu-Doped Nanocrystals via Electrochemical Control of Surface Trapping. Nano Letters, 2012, 12, 4372-4379.	4.5	125
88	High-Performance, Quantum Dot Nanocomposites for Nonlinear Optical and Optical Gain Applications. Advanced Materials, 2003, 15, 610-613.	11.1	124
89	Aspect Ratio Dependence of Auger Recombination and Carrier Multiplication in PbSe Nanorods. Nano Letters, 2013, 13, 1092-1099.	4.5	123
90	Towards zero-threshold optical gain using charged semiconductor quantum dots. Nature Nanotechnology, 2017, 12, 1140-1147.	15.6	122

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91	Auger-process-induced charge separation in semiconductor nanocrystals. Physical Review B, 1997, 55, 13173-13179.	1.1	121
92	Colloidal Spherical Quantum Wells with Near-Unity Photoluminescence Quantum Yield and Suppressed Blinking. ACS Nano, 2016, 10, 9297-9305.	7.3	119
93	Heavily doped n-type PbSe and PbS nanocrystals using ground-state charge transfer from cobaltocene. Scientific Reports, 2013, 3, 2004.	1.6	116
94	Light Emission Mechanisms in CuInS₂ Quantum Dots Evaluated by Spectral Electrochemistry. ACS Photonics, 2017, 4, 2425-2435.	3.2	115
95	Comparison of Carrier Multiplication Yields in PbS and PbSe Nanocrystals: The Role of Competing Energy-Loss Processes. Nano Letters, 2012, 12, 622-628.	4.5	113
96	Phase-Transfer Ligand Exchange of Lead Chalcogenide Quantum Dots for Direct Deposition of Thick, Highly Conductive Films. Journal of the American Chemical Society, 2017, 139, 6644-6653.	6.6	112
97	Long-lived photoinduced magnetization in copper-doped ZnSeâ€“CdSe coreâ€“shell nanocrystals. Nature Nanotechnology, 2012, 7, 792-797.	15.6	110
98	Femtosecond high-sensitivity, chirp-free transient absorption spectroscopy using kilohertz lasers. Optics Letters, 1998, 23, 277.	1.7	106
99	A Reduction Pathway in the Synthesis of PbSe Nanocrystal Quantum Dots. Journal of the American Chemical Society, 2009, 131, 10620-10628.	6.6	106
100	The effect of Auger heating on intraband carrier relaxation in semiconductor quantum rods. Nature Physics, 2006, 2, 557-561.	6.5	105
101	PbSe nanocrystal/conducting polymer solar cells with an infrared response to 2 micron. Journal of Materials Research, 2007, 22, 2204-2210.	1.2	102
102	Generalized Synthesis of Hybrid Metalâ€“Semiconductor Nanostructures Tunable from the Visible to the Infrared. ACS Nano, 2012, 6, 3832-3840.	7.3	99
103	Interplay between Optical Gain and Photoinduced Absorption in CdSe Nanocrystals. Journal of Physical Chemistry B, 2004, 108, 5250-5255.	1.2	98
104	Asymmetrically strained quantum dots with non-fluctuating single-dot emission spectra and subthermal room-temperature linewidths. Nature Materials, 2019, 18, 249-255.	13.3	97
105	Optically pumped colloidal-quantum-dot lasing in LED-like devices with an integrated optical cavity. Nature Communications, 2020, 11, 271.	5.8	96
106	Absorption cross sections and Auger recombination lifetimes in inverted core-shell nanocrystals: Implications for lasing performance. Journal of Applied Physics, 2006, 99, 034309.	1.1	93
107	Spectroscopic insights into the performance of quantum dot light-emitting diodes. MRS Bulletin, 2013, 38, 721-730.	1.7	91
108	Spectroscopic Signatures of Photocharging due to Hot-Carrier Transfer in Solutions of Semiconductor Nanocrystals under Low-Intensity Ultraviolet Excitation. ACS Nano, 2010, 4, 6087-6097.	7.3	87

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109	Pump-Intensity- and Shell-Thickness-Dependent Evolution of Photoluminescence Blinking in Individual Core/Shell CdSe/CdS Nanocrystals. Nano Letters, 2011, 11, 5213-5218.	4.5	87
110	Subâ€“single-exciton lasing using charged quantum dots coupled to a distributed feedback cavity. Science, 2019, 365, 672-675.	6.0	86
111	Spectroscopic insights into high defect tolerance of Zn:CuInSe2 quantum-dot-sensitized solar cells. Nature Energy, 2020, 5, 409-417.	19.8	86
112	Light Amplification in the Single-Exciton Regime Using Excitonâ^'Exciton Repulsion in Type-II Nanocrystal Quantum Dots. Journal of Physical Chemistry C, 2007, 111, 15382-15390.	1.5	84
113	Single Carbon Nanotubes Probed by Photoluminescence Excitation Spectroscopy: The Role of Phonon-Assisted Transitions. Physical Review Letters, 2005, 94, 127403.	2.9	81
114	Hybrid Photovoltaics Based on Semiconductor Nanocrystals and Amorphous Silicon. Nano Letters, 2009, 9, 1235-1241.	4.5	81
115	Evidence for Barrierless Auger Recombination in PbSe Nanocrystals: A Pressure-Dependent Study of Transient Optical Absorption. Physical Review Letters, 2008, 101, 217401.	2.9	80
116	Infrared-Active Heterostructured Nanocrystals with Ultralong Carrier Lifetimes. Journal of the American Chemical Society, 2010, 132, 9960-9962.	6.6	80
117	Amplified Spontaneous Emission in Semiconductor-Nanocrystal/Synthetic-OpalÂComposites: Optical-Gain Enhancement via a Photonic Crystal Pseudogap. Advanced Materials, 2006, 18, 343-347.	11.1	78
118	An Amphiphilic Approach to Nanocrystal Quantum Dotâ^'Titania Nanocomposites. Journal of the American Chemical Society, 2004, 126, 714-715.	6.6	76
119	Simple yet Versatile Synthesis of CuInSe_{<i>x</i>}S_{2â€“<i>x</i>} Quantum Dots for Sunlight Harvesting. Journal of Physical Chemistry C, 2014, 118, 16987-16994.	1.5	75
120	Spectral Dependence of Nanocrystal Photoionization Probability: The Role of Hot-Carrier Transfer. ACS Nano, 2011, 5, 5045-5055.	7.3	74
121	Effect of Interfacial Alloying versus â€œVolume Scalingâ€• on Auger Recombination in Compositionally Graded Semiconductor Quantum Dots. Nano Letters, 2017, 17, 5607-5613.	4.5	73
122	Spin-Polarized<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mi>Mn</mml:mi><mml:mrow><mml:mn>2</mml:mn><mml:mo>+</mml:mo></mml:mrow></mml: from Mn-Doped Colloidal Nanocrystals. Physical Review Letters, 2011, 107, 067402.	2.9	71
123	Non-Poissonian Exciton Populations in Semiconductor Nanocrystals via Carrier Multiplication. Physical Review Letters, 2006, 96, 097402.	2.9	69
124	Magneto-Optical Properties of CuInS₂ Nanocrystals. Journal of Physical Chemistry Letters, 2014, 5, 4105-4109.	2.1	69
125	Measurement of Electronic States of PbS Nanocrystal Quantum Dots Using Scanning Tunneling Spectroscopy: The Role of Parity Selection Rules in Optical Absorption. Physical Review Letters, 2013, 110, 127406.	2.9	68
126	Ultrafast Carrier Dynamics, Optical Amplification, and Lasing in Nanocrystal Quantum Dots. MRS Bulletin, 2001, 26, 998-1004.	1.7	66

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127	Nanoplasmonic renormalization and enhancement of Coulomb interactions. New Journal of Physics, 2008, 10, 105011.	1.2	66
128	Super-Poissonian Statistics of Photon Emission from Single CdSe-CdS Core-Shell Nanocrystals Coupled to Metal Nanostructures. Physical Review Letters, 2013, 110, 117401.	2.9	66
129	Dual-Color Electroluminescence from Dot-in-Bulk Nanocrystals. Nano Letters, 2014, 14, 486-494.	4.5	66
130	Time- and Polarization-Resolved Optical Spectroscopy of Colloidal CdSe Nanocrystal Quantum Dots in High Magnetic Fields. Journal of Physical Chemistry B, 2005, 109, 15332-15338.	1.2	64
131	Carrier multiplication in semiconductor nanocrystals via intraband optical transitions involving virtual biexciton states. Physical Review B, 2007, 76, .	1.1	64
132	Superposition Principle in Auger Recombination of Charged and Neutral Multicarrier States in Semiconductor Quantum Dots. ACS Nano, 2017, 11, 8437-8447.	7.3	63
133	Prospects and challenges of colloidal quantum dot laser diodes. Nature Photonics, 2021, 15, 643-655.	15.6	63
134	Dynamic Hole Blockade Yields Two-Color Quantum and Classical Light from Dot-in-Bulk Nanocrystals. Nano Letters, 2013, 13, 321-328.	4.5	60
135	Spectro-electrochemical Probing of Intrinsic and Extrinsic Processes in Exciton Recombination in Iâ€“IIIâ€“VI₂ Nanocrystals. Nano Letters, 2017, 17, 4508-4517.	4.5	60
136	Broadband near-field interference spectroscopy of metal nanoparticles using a femtosecond white-light continuum. Optics Letters, 2003, 28, 1686.	1.7	59
137	Carrier Multiplication in Quantum Dots within the Framework of Two Competing Energy Relaxation Mechanisms. Journal of Physical Chemistry Letters, 2013, 4, 2061-2068.	2.1	59
138	Bright-exciton fine structure and anisotropic exchange inCdSenanocrystal quantum dots. Physical Review B, 2006, 73, .	1.1	57
139	Effect of Core/Shell Interface on Carrier Dynamics and Optical Gain Properties of Dual-Color Emitting CdSe/CdS Nanocrystals. ACS Nano, 2016, 10, 6877-6887.	7.3	57
140	Femtosecond dynamics of excitons in Ï€-conjugated oligomers: the role of intrachain two-exciton states in the formation of interchain species. Chemical Physics Letters, 1997, 277, 109-117.	1.2	56
141	Carrier multiplication detected through transient photocurrent in device-grade films of lead selenide quantum dots. Nature Communications, 2015, 6, 8185.	5.8	56
142	Enhanced Multiple Exciton Generation in PbS|CdS Janus-like Heterostructured Nanocrystals. ACS Nano, 2018, 12, 10084-10094.	7.3	56
143	Spectroscopic and Magneto-Optical Signatures of Cu¹⁺ and Cu²⁺ Defects in Copper Indium Sulfide Quantum Dots. ACS Nano, 2020, 14, 2212-2223.	7.3	56
144	Mechanisms for optical nonlinearities and ultrafast carrier dynamics inCuxS nanocrystals. Physical Review B, 1996, 54, 8087-8094.	1.1	54

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145	Lasing characteristics of GaSbâˆ•GaAs self-assembled quantum dots embedded in an InGaAs quantum well. Applied Physics Letters, 2007, 90, 261115.	1.5	54
146	Revealing giant internal magnetic fields due to spin fluctuations in magnetically doped colloidal nanocrystals. Nature Nanotechnology, 2016, 11, 137-142.	15.6	53
147	Linearly polarized â€˜fine structureâ€™ of the bright exciton state in individual CdSe nanocrystal quantum dots. Physical Review B, 2008, 77, .	1.1	51
148	Optical nonlinearities and carrier trapping dynamics in CdS and CuxS nanocrystals. Superlattices and Microstructures, 1996, 20, 395-404.	1.4	49
149	Anomalous Circular Polarization of Photoluminescence Spectra of Individual CdSe Nanocrystals in an Applied Magnetic Field. Physical Review Letters, 2009, 102, 017402.	2.9	49
150	Design and Synthesis of Heterostructured Quantum Dots with Dual Emission in the Visible and Infrared. ACS Nano, 2015, 9, 539-547.	7.3	49
151	Sensitization and Protection of Lanthanide Ion Emission in In₂O₃:Eu Nanocrystal Quantum Dots. Journal of Physical Chemistry C, 2008, 112, 20246-20250.	1.5	46
152	Performance Limits of Luminescent Solar Concentrators Tested with Seed/Quantum-Well Quantum Dots in a Selective-Reflector-Based Optical Cavity. Nano Letters, 2018, 18, 395-404.	4.5	46
153	Structure of Excited-State Transitions of Individual Semiconductor Nanocrystals Probed by Photoluminescence Excitation Spectroscopy. Physical Review Letters, 2004, 93, 187402.	2.9	43
154	Multiexciton Dynamics in Infrared-Emitting Colloidal Nanostructures Probed by a Superconducting Nanowire Single-Photon Detector. ACS Nano, 2012, 6, 9532-9540.	7.3	43
155	Revealing the Exciton Fine Structure of PbSe Nanocrystal Quantum Dots Using Optical Spectroscopy in High Magnetic Fields. Physical Review Letters, 2010, 105, 067403.	2.9	42
156	Shape-Controlled Narrow-Gap SnTe Nanostructures: From Nanocubes to Nanorods and Nanowires. Journal of the American Chemical Society, 2015, 137, 15074-15077.	6.6	42
157	Tuning Carrier Mobilities and Polarity of Charge Transport in Films of CuInSe_xS_{2â€“x} Quantum Dots. Advanced Materials, 2015, 27, 1701-1705.	11.1	39
158	Ultrafast Energy Transfer between the3MLCT State of [RuII(dmb)2(bpy-an)]2+and the Covalently Appended Anthracene. Journal of Physical Chemistry A, 2005, 109, 2472-2475.	1.1	38
159	Highly versatile near-infrared emitters based on an atomically defined HgS interlayer embedded into a CdSe/CdS quantum dot. Nature Nanotechnology, 2021, 16, 673-679.	15.6	37
160	Controlled unidirectional energy transfer in luminescent self-assembled conjugated polymer superlattices. Chemical Physics Letters, 1999, 315, 173-180.	1.2	36
161	Direct Measurements of Magnetic Polarons in Cd_{1â€“<i>x</i>}Mn_{<i>x</i>}Se Nanocrystals from Resonant Photoluminescence. Nano Letters, 2017, 17, 3068-3075.	4.5	36
162	Response of Semiconductor Nanocrystals to Extremely Energetic Excitation. Nano Letters, 2013, 13, 925-932.	4.5	35

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