Vladimir Lesnyak

List of Publications by Year
in descending order

124 papers	5,837 citations	76326 40 h-index	76900 74 g-index
127 all docs	127 docs citations	127 times ranked	7742 citing authors

#	Article	IF	Citations
1	Aqueous Synthesis of Thiol-Capped CdTe Nanocrystals:â€‰ State-of-the-Art. Journal of Physical Chemistry C, 2007, 111, 14628-14637.	3.1	703
2	Determination of the Fluorescence Quantum Yield of Quantum Dots: Suitable Procedures and Achievable Uncertainties. Analytical Chemistry, 2009, 81, 6285-6294.	6.5	556
3	Colloidal semiconductor nanocrystals: the aqueous approach. Chemical Society Reviews, 2013, 42, 2905-2929.	38.1	247
4	Cu Vacancies Boost Cation Exchange Reactions in Copper Selenide Nanocrystals. Journal of the American Chemical Society, 2015, 137, 9315-9323.	13.7	174
5	From Binary Cu₂S to Ternary Cuâ€“Inâ€“S and Quaternary Cuâ€“Inâ€“Znâ€“S Nanocrystals with Tunable Composition via Partial Cation Exchange. ACS Nano, 2015, 9, 521-531.	14.6	173
6	Surface Plasmon Enhanced Energy Transfer between Donor and Acceptor CdTe Nanocrystal Quantum Dot Monolayers. Nano Letters, 2011, 11, 3341-3345.	9.1	159
7	Generalized One-Pot Synthesis of Copper Sulfide, Selenide-Sulfide, and Telluride-Sulfide Nanoparticles. Chemistry of Materials, 2014, 26, 1442-1449.	6.7	150
8	Colloidal Nanocrystals Embedded in Macrocrystals: Robustness, Photostability, and Color Purity. Nano Letters, 2012, 12, 5348-5354.	9.1	136
9	Wavelength, Concentration, and Distance Dependence of Nonradiative Energy Transfer to a Plane of Gold Nanoparticles. ACS Nano, 2012, 6, 9283-9290.	14.6	131
10	A Fine Size Selection of Brightly Luminescent Water-Soluble Agâ€“Inâ€“S and Agâ€“Inâ€“S/ZnS Quantum Dots. Journal of Physical Chemistry C, 2017, 121, 9032-9042.	3.1	131
11	Experimental and Theoretical Investigation of the Distance Dependence of Localized Surface Plasmon Coupled FÃ¶rster Resonance Energy Transfer. ACS Nano, 2014, 8, 1273-1283.	14.6	130
12	Alloyed Copper Chalcogenide Nanoplatelets via Partial Cation Exchange Reactions. ACS Nano, 2014, 8, 8407-8418.	14.6	123
13	Threeâ€Dimensional Selfâ€Assembly of Thiolâ€Capped CdTe Nanocrystals: Gels and Aerogels as Building Blocks for Nanotechnology. Advanced Materials, 2008, 20, 4257-4262.	21.0	116
14	3D Assembly of Semiconductor and Metal Nanocrystals: Hybrid CdTe/Au Structures with Controlled Content. Journal of the American Chemical Society, 2011, 133, 13413-13420.	13.7	112
15	Concentration dependence of FÃ¶rster resonant energy transfer between donor and acceptor nanocrystal quantum dot layers: Effect of donor-donor interactions. Physical Review B, 2011, 83, .	3.2	111
16	CdTe Quantum Dot/Dye Hybrid System as Photosensitizer for Photodynamic Therapy. Nanoscale Research Letters, 2010, 5, 753-760.	5.7	90
17	Influence of quantum dot concentration on FÃ¶rster resonant energy transfer in monodispersed nanocrystal quantum dot monolayers. Physical Review B, 2010, 81, .	3.2	85
18	Role of the Crystal Structure in Cation Exchange Reactions Involving Colloidal Cu₂Se Nanocrystals. Journal of the American Chemical Society, 2017, 139, 9583-9590.	13.7	83

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19	Switchable Photoluminescence of CdTe Nanocrystals by Temperature-Responsive Microgels. Langmuir, 2008, 24, 9820-9824.	3.5	81
20	Resonance Energy Transfer Improves the Biological Function of Bacteriorhodopsin within a Hybrid Material Built from Purple Membranes and Semiconductor Quantum Dots. Nano Letters, 2010, 10, 2640-2648.	9.1	80
21	CdTe Nanocrystals Capped with a Tetrazolyl Analogue of Thioglycolic Acid: Aqueous Synthesis, Characterization, and Metal-Assisted Assembly. ACS Nano, 2010, 4, 4090-4096.	14.6	80
22	3D Assembly of Allâ€Inorganic Colloidal Nanocrystals into Gels and Aerogels. Angewandte Chemie - International Edition, 2016, 55, 6334-6338.	13.8	75
23	Absolute photoluminescence quantum yields of IR26 and IR-emissive Cd‹sub›1â^'x‹/sub›Hg‹sub›x‹/sub›Te and PbS quantum dots â€“ method- and material-inherent challenges. Nanoscale, 2015, 7, 133-143.	5.6	74
24	Singleâ€Mode Lasing from Colloidal Waterâ€Soluble CdSe/CdS Quantum Dotâ€inâ€Rods. Small, 2015, 11, 1328-1334.	10.0	70
25	Large scale syntheses of colloidal nanomaterials. Nano Today, 2017, 12, 46-63.	11.9	69
26	Anisotropic Emission from Multilayered Plasmon Resonator Nanocomposites of Isotropic Semiconductor Quantum Dots. ACS Nano, 2011, 5, 1328-1334.	14.6	66
27	Layerâ€byâ€Layer Allâ€Inorganic Quantumâ€Dotâ€Based LEDs: A Simple Procedure with Robust Performance. Advanced Functional Materials, 2010, 20, 3298-3302.	14.9	61
28	Mixed Aerogels from Au and CdTe Nanoparticles. Advanced Functional Materials, 2013, 23, 1903-1911.	14.9	60
29	Penetration of Amphiphilic Quantum Dots through Model and Cellular Plasma Membranes. ACS Nano, 2012, 6, 2150-2156.	14.6	59
30	Covalent immobilization of quantum dots on macroscopic surfaces using poly(acrylic acid) brushes. Journal of Materials Chemistry, 2008, 18, 214-220.	6.7	58
31	Self-Assembly of TGA-Capped CdTe Nanocrystals into Three-Dimensional Luminescent Nanostructures. Chemistry of Materials, 2010, 22, 2309-2314.	6.7	58
32	Enhancing the efficiency of a dye sensitized solar cell due to the energy transfer between CdSe quantum dots and a designed squaraine dye. RSC Advances, 2012, 2, 2748.	3.6	56
33	One-step aqueous synthesis of blue-emitting glutathione-capped ZnSe1â^'xTexalloyed nanocrystals. Chemical Communications, 2010, 46, 886-888.	4.1	53
34	Enhanced quantum dot deposition on ZnO nanorods for photovoltaics through layer-by-layer processing. Journal of Materials Chemistry, 2011, 21, 2517.	6.7	51
35	Hybrid N-Butylamine-Based Ligands for Switching the Colloidal Solubility and Regimentation of Inorganic-Capped Nanocrystals. ACS Nano, 2017, 11, 1559-1571.	14.6	49
36	Fully Solutionâ€Processed Conductive Films Based on Colloidal Copper Selenide Nanosheets for Flexible Electronics. Advanced Functional Materials, 2016, 26, 3670-3677.	14.9	46

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37	Simultaneous Identification of Spectral Properties and Sizes of Multiple Particles in Solution with Subnanometer Resolution. Angewandte Chemie - International Edition, 2016, 55, 11770-11774.	13.8	46
38	Near-Infrared Cuâ€"Inâ€"Se-Based Colloidal Nanocrystals via Cation Exchange. Chemistry of Materials, 2018, 30, 2607-2617.	6.7	45
39	Hybrid organic/inorganic semiconductor nanostructures with highly efficient energy transfer. Journal of Materials Chemistry, 2012, 22, 10816.	6.7	44
40	Decoration of Diatom Biosilica with Noble Metal and Semiconductor Nanoparticles (<10â€…nm): Assembly, Characterization, and Applications. Chemistry - an Asian Journal, 2012, 7, 85-90.	3.3	43
41	Structural tuning of color chromaticity through nonradiative energy transfer by interspacing CdTe nanocrystal monolayers. Applied Physics Letters, 2009, 94, .	3.3	41
42	Electrochemical Tuning of Localized Surface Plasmon Resonance in Copper Chalcogenide Nanocrystals. Journal of Physical Chemistry C, 2017, 121, 18244-18253.	3.1	41
43	Quantum-Dot-Based (Aero)gels: Control of the Optical Properties. Journal of Physical Chemistry Letters, 2012, 3, 2188-2193.	4.6	40
44	One-pot aqueous synthesis of high quality near infrared emitting Cd1âˆ'xHgxTe nanocrystals. Journal of Materials Chemistry, 2009, 19, 9147.	6.7	39
45	Effect of Metal Nanoparticle Concentration on Localized Surface Plasmon Mediated FÃ¶rster Resonant Energy Transfer. Journal of Physical Chemistry C, 2012, 116, 26529-26534.	3.1	39
46	Brightly Luminescent Core/Shell Nanoplatelets with Continuously Tunable Optical Properties. Advanced Optical Materials, 2019, 7, 1801478.	7.3	33
47	Toward efficient blue-emitting thiol-capped Zn1âˆ'xCdxSe nanocrystals. Journal of Materials Chemistry, 2008, 18, 5142.	6.7	32
48	Colloidal PbSe Nanoplatelets of Varied Thickness with Tunable Optical Properties. Chemistry of Materials, 2019, 31, 3803-3811.	6.7	32
49	Tetrazoles: Unique Capping Ligands and Precursors for Nanostructured Materials. Small, 2015, 11, 5728-5739.	10.0	31
50	Synthesis of Amphiphilic CdTe Nanocrystals. Journal of Physical Chemistry C, 2009, 113, 4748-4750.	3.1	30
51	Synthesis of Monodisperse Cadmium Phosphide Nanoparticles Using ex-Situ Produced Phosphine. ACS Nano, 2012, 6, 7059-7065.	14.6	30
52	Experimental and theoretical investigations of the ligand structure of water-soluble CdTe nanocrystals. Dalton Transactions, 2013, 42, 12733.	3.3	29
53	Quantumâ€Dotâ€inâ€Polymer Composites via Advanced Surface Engineering. Small Methods, 2017, 1, 1700189.	8.6	29
54	Colloidal Mercury-Doped CdSe Nanoplatelets with Dual Fluorescence. Chemistry of Materials, 2019, 31, 5065-5074.	6.7	29

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55	Halide-Assisted Synthesis of Cadmium Chalcogenide Nanoplatelets. Chemistry of Materials, 2020, 32, 566-574.	6.7	29
56	Large Enhancement of Nonlinear Optical Response in a Hybrid Nanobiomaterial Consisting of Bacteriorhodopsin and Cadmium Telluride Quantum Dots. ACS Nano, 2013, 7, 2154-2160.	14.6	28
57	Energy transfer in colloidal CdTe quantum dot nanoclusters. Optics Express, 2010, 18, 24486.	3.4	27
58	Arylaminoâ€functionalized fluoreneâ€and carbazoleâ€based copolymers: Colorâ€tuning their CdTe nanocrystal composites from red to white. Journal of Polymer Science Part A, 2011, 49, 392-402.	2.3	27
59	Morphologyâ€Dependent Electrochemical Properties of CuS Hierarchical Superstructures. ChemPhysChem, 2015, 16, 3418-3424.	2.1	25
60	pH and concentration dependence of the optical properties of thiol-capped CdTe nanocrystals in water and D₂O. Physical Chemistry Chemical Physics, 2016, 18, 19083-19092.	2.8	25
61	General Colloidal Synthesis of Transition-Metal Disulfide Nanomaterials as Electrocatalysts for Hydrogen Evolution Reaction. ACS Applied Materials & Interfaces, 2020, 12, 13148-13155.	8.0	25
62	Saturated near-resonant refractive optical nonlinearity in CdTe quantum dots. Optics Letters, 2010, 35, 1079.	3.3	24
63	1-Substituted Tetrazole-5-thiol-Capped Noble Metal Nanoparticles. Journal of Physical Chemistry C, 2011, 115, 16928-16933.	3.1	22
64	Emissive ZnO@Zn₃P₂ Nanocrystals: Synthesis, Optical, and Optoelectrochemical Properties. Small, 2013, 9, 3415-3422.	10.0	22
65	Precise Engineering of Nanocrystal Shells via Colloidal Atomic Layer Deposition. Chemistry of Materials, 2017, 29, 8111-8118.	6.7	21
66	Colloidal PbS nanoplatelets synthesized via cation exchange for electronic applications. Nanoscale, 2019, 11, 19370-19379.	5.6	21
67	Highly Conductive Copper Selenide Nanocrystal Thin Films for Advanced Electronics. ACS Applied Electronic Materials, 2019, 1, 1560-1569.	4.3	19
68	Photosensitizer Methylene Blue-Semiconductor Nanocrystals Hybrid System for Photodynamic Therapy. Journal of Nanoscience and Nanotechnology, 2010, 10, 2656-2662.	0.9	17
69	Robust Polymer Matrix Based on Isobutylene (Co)polymers for Efficient Encapsulation of Colloidal Semiconductor Nanocrystals. ACS Applied Nano Materials, 2019, 2, 956-963.	5.0	17
70	One-Phase Synthesis of Gold Nanoparticles with Varied Solubility. Langmuir, 2011, 27, 10224-10227.	3.5	16
71	Heterostructured Bismuth Telluride Selenide Nanosheets for Enhanced Thermoelectric Performance. Small Science, 2021, 1, 2000021.	9.9	16
72	High-Performance Ultra-Short Channel Field-Effect Transistor Using Solution-Processable Colloidal Nanocrystals. Journal of Physical Chemistry Letters, 2019, 10, 4025-4031.	4.6	14

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73	Simultaneous Ligand and Cation Exchange of Colloidal CdSe Nanoplatelets toward PbSe Nanoplatelets for Application in Photodetectors. Journal of Physical Chemistry Letters, 2021, 12, 5214-5220.	4.6	13
74	Resonance energy transfer in self-organized organic/inorganic dendrite structures. Nanoscale, 2013, 5, 9317.	5.6	12
75	Multicolor Patterning of 2D Semiconductor Nanoplatelets. ACS Nano, 2021, 15, 17623-17634.	14.6	12
76	Self-Supported Three-Dimensional Quantum Dot Aerogels as a Promising Photocatalyst for CO₂ Reduction. Chemistry of Materials, 2022, 34, 2687-2695.	6.7	12
77	Colloidal Cuâ€"Znâ€"Inâ€"S-Based Disk-Shaped Nanocookies. Chemistry of Materials, 2019, 31, 2873-2883.	6.7	11
78	Near-Infrared-Emitting Cd_xHg_{1â€"x}Se-Based Core/Shell Nanoplatelets. Chemistry of Materials, 2021, 33, 7693-7702.	6.7	11
79	Temperature-Dependent Photoluminescent Properties of PbSe Nanoplatelets. Nanomaterials, 2020, 10, 2570.	4.1	11
80	Synthesis and characterization of amino-functional, blue light-emitting copolymers and their composites with CdTe nanocrystals. Polymer, 2010, 51, 5669-5673.	3.8	10
81	Design of cross-linked polyisobutylene matrix for efficient encapsulation of quantum dots. Nanoscale Advances, 2021, 3, 1443-1454.	4.6	10
82	3Dâ€Anordnung anorganischer kolloidaler Nanokristalle zu Gelen und Aerogelen. Angewandte Chemie, 2016, 128, 6442-6446.	2.0	9
83	Amphiphilic and magnetic behavior of Fe3O4 nanocrystals. Physical Chemistry Chemical Physics, 2010, 12, 2063.	2.8	8
84	Bio-nanohybrids of quantum dots and photoproteins facilitating strong nonradiative energy transfer. Nanoscale, 2013, 5, 7034.	5.6	8
85	Simulation study of environmentally friendly quantum-dot-based photovoltaic windows. Journal of Materials Chemistry C, 2017, 5, 11790-11797.	5.5	8
86	Brightly Luminescent Cu-Zn-In-S/ZnS Core/Shell Quantum Dots in Salt Matrices. Zeitschrift Fur Physikalische Chemie, 2018, 233, 23-40.	2.8	8
87	Semiconductor Nanocrystal Heterostructures: Near-Infrared Emitting PbSe-Tipped CdSe Tetrapods. Chemistry of Materials, 2020, 32, 4045-4053.	6.7	8
88	Probing Absolute Electronic Energy Levels in Hgâ€Doped CdTe Semiconductor Nanocrystals by Electrochemistry and Density Functional Theory. ChemPhysChem, 2016, 17, 244-252.	2.1	7
89	Synthesis of Petroleum Polymeric Resin by Cationic Polymerization of the C9 Fraction. Russian Journal of Applied Chemistry, 2002, 75, 1006-1008.	0.5	6
90	Editorial: Colloidal Semiconductor Nanocrystals: Synthesis, Properties, and Applications. Frontiers in Chemistry, 2019, 7, 684.	3.6	6

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91	Cation Exchange on Colloidal Copper Selenide Nanosheets: A Route to Two-Dimensional Metal Selenide Nanomaterials. Journal of Materials Chemistry C, 0, , .	5.5	6
92	Multiexciton generation assisted highly photosensitive CdHgTe nanocrystal skins. Nano Energy, 2016, 26, 324-331.	16.0	5
93	Cyclic voltammetry as a sensitive method for in situ probing of chemical transformations in quantum dots. Physical Chemistry Chemical Physics, 2016, 18, 10355-10361.	2.8	5
94	Flexible and fragmentable tandem photosensitive nanocrystal skins. Nanoscale, 2016, 8, 4495-4503.	5.6	5
95	Surface Defines the Properties: Colloidal Bi2Se3 Nanosheets with High Electrical Conductivity. Journal of Physical Chemistry C, 2021, 125, 6442-6448.	3.1	5
96	Chemical Transformations of Colloidal Semiconductor Nanocrystals Advance Their Applications. Journal of Physical Chemistry Letters, 2021, 12, 12310-12322.	4.6	5
97	Optical limiting in CdTe nanocrystals embedded in polystyrene. Proceedings of SPIE, 2009, , .	0.8	4
98	Incoherent photon conversion in selectively infiltrated hollow-core photonic crystal fibers for single photon generation in the near infrared. Optics Express, 2012, 20, 11536.	3.4	4
99	Selectively Tunable Luminescence of Perovskite Nanocrystals Embedded in Polymer Matrix Allows Direct Laser Patterning. Advanced Optical Materials, 2022, 10, .	7.3	4
100	Large energy transfer distance to a plane of gold nanoparticles. , 2012, , .		3
101	Incorporation of CdTe Nanocrystals into Metal Oxide Matrices Towards Inorganic Nanocomposite Materials. Zeitschrift Fur Physikalische Chemie, 2018, 232, 1335-1352.	2.8	3
102	Sulfonated Petroleum Polymeric Resins as Plasticizers for Cement Mortars. Russian Journal of Applied Chemistry, 2003, 76, 1870-1872.	0.5	2
103	Simultane Bestimmung spektraler Eigenschaften und GrÃ¶ÃŸen von multiplen Partikeln in LÃ¶sung mit Subnanometerâ€AuflÃ¶sung. Angewandte Chemie, 2016, 128, 11944-11949.	2.0	2
104	Copolymers of the C9 hydrocarbon fraction of liquid pyrolysis products with maleic anhydride and their esterification products as additives to paper pulp. Russian Journal of Applied Chemistry, 2007, 80, 295-299.	0.5	1
105	Radical copolymerization of the C9 hydrocarbon fraction of liquid pyrolysis products with maleic anhydride. Russian Journal of Applied Chemistry, 2007, 80, 822-827.	0.5	1
106	Influence of intra-ensemble energy transfer on the properties of nanocrystal quantum dot structures and devices. , 2010, , .		1
107	Enhanced quantum efficiency in mixed donor-acceptor nanocrystal quantum dot monolayers. , 2011, , .		1
108	Influence of Annealing on Composition and Optical Properties of CdTe Nanoparticle Layer-by-Layer Films. Journal of Nanoscience and Nanotechnology, 2011, 11, 5270-5273.	0.9	1

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109	A Versatile Approach for a Variety of Amphiphilic Nanoparticles: Semiconductor â€“ Plasmonic â€“ Magnetic. Zeitschrift Fur Physikalische Chemie, 2014, 228, 171-181.	2.8	1
110	Enhancing FÃ¶rster nonradiative energy transfer via plasmon interaction. , 2016, , .		1
111	Size dependent nonlinear properties of thiol-capped CdTe QDs. , 2009, , .		0
112	Architectural tuning of color chromaticity by controlled nonradiative resonance energy transfer in CdTe nanocrystal solids. , 2009, , .		0
113	The use of nanocrystals with emission in the visible or near infrared and their applications for photonics and optoelectronics. Proceedings of SPIE, 2009, , .	0.8	0
114	Gels and aerogels from colloidal nanocrystals. , 2010, , .		0
115	Optical limiting in polystyrene embedded nanocrystals. , 2010, , .		0
116	Influence of localised surface plasmons on energy transfer between quantum dots. , 2010, , .		0
117	Observation of anisotropic emission from semiconductor quantum dots in nanocomposites of metal nanoparticles. , 2010, , .		0
118	Modification of the FRET rate in quantum dot structures. , 2011, , .		0
119	All - Optical spatial light modulator using CdTe quantum dots. , 2011, , .		0
120	Emissive Semiconductor Nanocrystals: Recent Progress. ECS Transactions, 2012, 45, 61-66.	0.5	0
121	A novel concept to generate single photons: incoherent conversion from the visible into the infrared spectrum. Proceedings of SPIE, 2013, , .	0.8	0
122	Aqueous Synthesis of Colloidal CdTe Nanocrystals. , 2013, , 23-59.		0
123	Aqueous based colloidal quantum dots for optoelectronics. , 0, , 30-58.		0
124	Multicolor Nanopatterning of Two-Dimensional Nanoplatelets. , 0, , .		0