RESEARCH & PUBLICATIONS

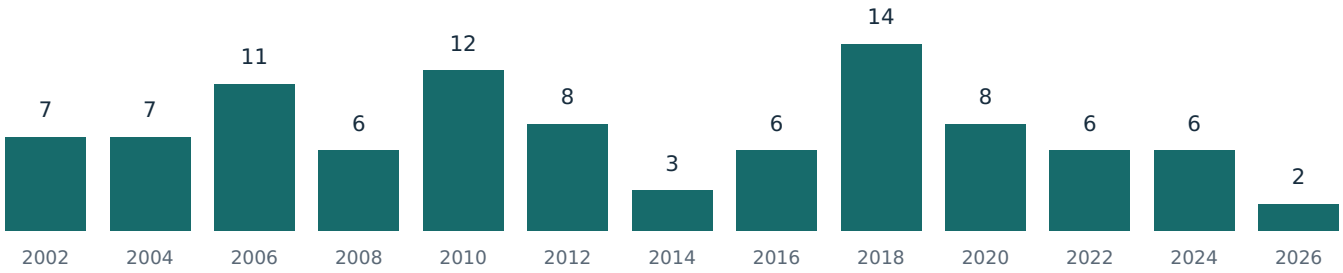
Elena V. Shevchenko

A publication record at a glance

96	18,915	46
ARTICLES	CITATIONS	h-INDEX

PUBLICATION ACTIVITY

Articles grouped into 2-year periods



MOST CITED IN THIS LIST

Prospects of Colloidal Nanocrystals for Electronic and Optoelectronic Applications — 4,110
2010 Chemical Reviews

Structural Diversity in Binary Nanoparticle Superlattices — 2,123
2006 Nature

Thiol-Capping of CdTe Nanocrystals: An Alternative to Organometallic Synthetic Routes — 1,543
2002 Journal of Physical Chemistry B

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Ordered by publication year, newest first

2026

01 Sequential Infiltration Synthesis of Bilayer Porous Alumina Nanostructures for Broad-Angle, Broadband Antireflective Coatings

1 citations

ACS Applied Nano Materials · 9, 602-611

https://exaly.com/article/208299366

02 Strong Effect of the Nonpolar Solvent Molecular Structure on CdSe Nanoplatelet Stacking

1 citations

Nanoscale

https://exaly.com/article/214531485

2025

03 Surface Engineering of Pt Nanocatalysts With Transition Metal Oleates for Selective Catalysis: A Case Study on the Hydrogenation of α,β-Unsaturated Aldehydes

4 citations

Nanoscale · 17, 9391-9400

https://exaly.com/article/199038852

04 Block Copolymer-Templated Synthesis of Fe–Ni–Co-Modified Nanoporous Alumina Films

2 citations

Applied Sciences (Switzerland) · 15, 10473

https://exaly.com/article/205348516

2024

05 Binder-Free Cnt Cathodes for Li-O2 Batteries With More Than One Life

13 citations

Small Methods · 8, 2300452

https://exaly.com/article/168507014

06 Self-Cleaning Highly Porous TiO2 Coating Designed by Swelling-Assisted Sequential Infiltration Synthesis (SIS) of a Block Copolymer Template

17 citations

Polymers · 16, 308

https://exaly.com/article/175542318

07 Advanced VO2/Polymer Nanocomposite Smart Window Films Using VO2 Nanoparticles From High-Throughput Flow Synthesis

9 citations

Journal unavailable · 2, 262-275

https://exaly.com/article/176094096

08 Compressibility Studies of Copper Selenides Obtained by Cation Exchange Reaction Revealing the New CsCl Phase

5 citations

Nano Letters · 24, 6981-6989

https://exaly.com/article/186919004

Ordered by publication year, newest first

2023

09 **Polymer Infiltration Synthesis of Inorganic Nanoporous Coatings: Does Polymer Template Affect Their Properties?**
Surface and Coatings Technology · 452, 129107
https://exaly.com/article/157311952
14 citations

10 **Macroscale Superlubricity Induced by MXene/MoS2 Nanocomposites on Rough Steel Surfaces Under High Contact Stresses**
ACS Nano · 17, 2421-2430
https://exaly.com/article/159138241
145 citations

11 **Optical Anisotropy of CsPbBr3 Perovskite Nanoplatelets**
Nano Convergence · 10, 18
https://exaly.com/article/163076970
20 citations

12 **Accessibility and Mechanical Stability of Nanoporous Zinc Oxide and Aluminum Oxide Coatings Synthesized via Infiltration of Polymer Templates**
Polymers · 15, 4088
https://exaly.com/article/168585896
5 citations

13 **Mechanistic Insights Into Copper(I) and Copper(II) Cation Exchange Reactions in CdSe Nanoplatelets**
Chemistry of Materials · 35, 8872-8882
https://exaly.com/article/170667733
14 citations

2022

14 **Porous but Mechanically Robust All-Inorganic Antireflective Coatings Synthesized Using Polymers of Intrinsic Microporosity**
ACS Nano · 16, 14754-14764
https://exaly.com/article/155046124
35 citations

2021

15 **Effect of Polymer Removal on the Morphology and Phase of the Nanoparticles in All-Inorganic Heterostructures Synthesized via Two-Step Polymer Infiltration**
Molecules · 26, 679
https://exaly.com/article/78859265
16 citations

16 **Insights Into the Extraction of Photogenerated Holes From CdSe/CdS Nanorods for Oxidative Organic Catalysis**
Journal of Materials Chemistry A · 9, 12690-12699
https://exaly.com/article/78893337
16 citations

Ordered by publication year, newest first

2021 / continued

17 Swelling-Assisted Sequential Infiltration Synthesis of Nanoporous ZnO Films With Highly Accessible Pores and Their Sensing Potential for Ethanol
20 citations
ACS Applied Materials & Interfaces · 13, 35941-35948
https://exaly.com/article/81221587

18 Single-Molecule Measurements Spatially Probe States Involved in Electron Transfer From CdSe/CdS Core/Shell Nanorods
6 citations
Journal of Physical Chemistry C · 125, 21246-21253
https://exaly.com/article/82196031

19 Spontaneous Formation of Anisotropic Microrods From Paraffin Wax in an Aqueous Environment
2 citations
Soft Matter · 18, 156-161
https://exaly.com/article/122929635

2020

20 Visualizing Heterogeneity of Monodisperse CdSe Nanocrystals by Their Assembly Into Three-Dimensional Supercrystals
6 citations
ACS Nano · 14, 14989-14998
https://exaly.com/article/75432094

21 Design of Functional Composite and All-Inorganic Nanostructured Materials via Infiltration of Polymer Templates With Inorganic Precursors
46 citations
Journal of Materials Chemistry C · 8, 10604-10627
https://exaly.com/article/76975348

22 Synthesis, Modular Composition, and Electrochemical Properties of Lamellar Iron Sulfides
15 citations
Journal of Materials Chemistry A · 8, 15834-15844
https://exaly.com/article/77577546

2019

23 Block-Co-Polymer-Assisted Synthesis of All Inorganic Highly Porous Heterostructures With Highly Accessible Thermally Stable Functional Centers
30 citations
ACS Applied Materials & Interfaces · 11, 30154-30162
https://exaly.com/article/72177816

24 Iron-Nanoparticle Driven Tribochemistry Leading to Superlubric Sliding Interfaces
64 citations
Advanced Materials Interfaces · 6, 1901416
https://exaly.com/article/72505653

Ordered by publication year, newest first

2019 / continued

25 Revealing the Effects of the Non-Solvent on the Ligand Shell of Nanoparticles and Their Crystallization
46 citations
Journal of the American Chemical Society · 141, 16651-16662
https://exaly.com/article/72767261

26 Ligand Dynamics Control Structure, Elasticity, and High-Pressure Behavior of Nanoparticle Superlattices
25 citations
Nanoscale · 11, 10655-10666
https://exaly.com/article/73418193

27 Hypoxia-Induced Biosynthesis of Gold Nanoparticles in the Living Brain
6 citations
Nanoscale · 11, 19285-19290
https://exaly.com/article/74272871

28 Effect of the Micelle Opening in Self-Assembled Amphiphilic Block Co-Polymer Films on the Infiltration of Inorganic Precursors
24 citations
Langmuir · 35, 796-803
https://exaly.com/article/74682040

29 XAFS Investigation of the Correlation of Bi-Sublattice Disorder With Ferromagnetism of Multiferroic BiFeO3 Nanoparticle
8 citations
Materials Research Express · 6, 045005
https://exaly.com/article/74685175

2018

30 Unexpected Compositional and Structural Modification of CoPt3 Nanoparticles by Extensive Surface Purification
8 citations
Nanoscale · 10, 6382-6392
https://exaly.com/article/68753988

31 In Situ X-Ray Absorption Spectroscopy Studies of Functional Nanomaterials
1 citations
Journal unavailable
https://exaly.com/article/68867425

32 Design of Lithium Cobalt Oxide Electrodes With High Thermal Conductivity and Electrochemical Performance Using Carbon Nanotubes and Diamond Particles
38 citations
Carbon · 129, 702-710
https://exaly.com/article/69166544

33 Strain-Driven Stacking Faults in CdSe/CdS Core/Shell Nanorods
41 citations
Journal of Physical Chemistry Letters · 9, 1900-1906
https://exaly.com/article/69380923

Ordered by publication year, newest first

2018 / continued

34 **Accessibility of the Pores in Highly Porous Alumina Films Synthesized via Sequential Infiltration Synthesis**
22 citations
Nanotechnology · 29, 495703
https://exaly.com/article/70863949

35 **The Surface Science of Nanoparticles for Catalysis: Electronic and Steric Effects of Organic Ligands**
29 citations
Journal of Nanoparticle Research · 20, 1-14
https://exaly.com/article/70901567

36 **Binary Transition-Metal Oxide Hollow Nanoparticles for Oxygen Evolution Reaction**
77 citations
ACS Applied Materials & Interfaces · 10, 24715-24724
https://exaly.com/article/71200785

2017

37 **Sequential Infiltration Synthesis for the Design of Low Refractive Index Surface Coatings With Controllable Thickness**
110 citations
ACS Nano · 11, 2521-2530
https://exaly.com/article/65957492

38 **Rapid Synthesis of Nanoporous Conformal Coatings via Plasma-Enhanced Sequential Infiltration of a Polymer Template**
29 citations
ACS Omega · 2, 7812-7819
https://exaly.com/article/67430431

2016

39 **Direct Imaging of Long-Range Exciton Transport in Quantum Dot Superlattices by Ultrafast Microscopy**
64 citations
ACS Nano · 10, 7208-15
https://exaly.com/article/63464443

40 **Oxidation Induced Doping of Nanoparticles Revealed by in Situ X-Ray Absorption Studies**
26 citations
Nano Letters · 16, 3738-47
https://exaly.com/article/64157494

41 **Introduction: Nanoparticle Chemistry**
155 citations
Chemical Reviews · 116, 10343-5
https://exaly.com/article/64276703

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2016 / continued

42 **Carbon Nanotube: Nanodiamond Li-Ion Battery Cathodes With Increased Thermal Conductivity**

Proceedings of SPIE · 9932, 993204

https://exaly.com/article/64753589

0 citations

2015

43 **Heterogeneous Nucleation and Shape Transformation of Multicomponent Metallic Nanostructures**

Nature Materials · 14, 215-223

https://exaly.com/article/62884200

232 citations

2014

44 **In Situ Optical and Structural Studies on Photoluminesence Quenching in CdSe/CdS/Au Heterostructures**

Journal of the American Chemical Society · 136, 2342-50

https://exaly.com/article/59323543

73 citations

45 **Toward Lithium Ion Batteries With Enhanced Thermal Conductivity**

ACS Nano · 8, 7202-7

https://exaly.com/article/59544354

67 citations

2013

46 **How “Hollow” Are Hollow Nanoparticles?**

Journal of the American Chemical Society · 135, 2435-8

https://exaly.com/article/55766466

30 citations

47 **Controlling the Spatial Location of Photoexcited Electrons in Semiconductor CdSe/CdS Core/Shell Nanorods**

Physical Review B · 87, 155427

https://exaly.com/article/55853460

35 citations

48 **Magnet-in-the-Semiconductor Nanomaterials: High Electron Mobility in All-Inorganic Arrays of FePt/CdSe and FePt/CdS Core–Shell Heterostructures**

Journal of Physical Chemistry Letters · 4, 1918-23

https://exaly.com/article/55892976

18 citations

49 **Plasmonic Amplifiers: Engineering Giant Light Enhancements by Tuning Resonances in Multiscale Plasmonic Nanostructures**

Small · 9, 1939-1946

https://exaly.com/article/55911457

20 citations

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2012

50 **Capping Ligands as Selectivity Switchers in Hydrogenation Reactions** — 168 citations
Nano Letters · 12, 5382-8
https://exaly.com/article/53960410

51 **Hollow Iron Oxide Nanoparticles for Application in Lithium Ion Batteries** — 403 citations
Nano Letters · 12, 2429-35
https://exaly.com/article/54316867

52 **Study of Nucleation and Growth Mechanism of the Metallic Nanodumbbells** — 71 citations
Journal of the American Chemical Society · 134, 4384-92
https://exaly.com/article/54380350

53 **Intercalation of Sodium Ions Into Hollow Iron Oxide Nanoparticles** — 117 citations
Chemistry of Materials · 25, 245-252
https://exaly.com/article/55435370

2011

54 **High-Pressure Structural Stability and Elasticity of Supercrystals Self-Assembled From Nanocrystals** — 85 citations
Nano Letters · 11, 579-88
https://exaly.com/article/49998701

55 **Using Shape to Control Photoluminescence From CdSe/CdS Core/Shell Nanorods** — 104 citations
Journal of Physical Chemistry Letters · 2, 1469-1475
https://exaly.com/article/50194068

56 **Structural Defects in Periodic and Quasicrystalline Binary Nanocrystal Superlattices** — 65 citations
Journal of the American Chemical Society · 133, 20837-49
https://exaly.com/article/51203461

57 **Multicomponent Periodic Nanoparticle Superlattices** — 32 citations
Journal of Nanoparticle Research · 13, 15-32
https://exaly.com/article/51291268

58 **Self-Assembled Large Au Nanoparticle Arrays With Regular Hot Spots for SERS** — 139 citations
Small · 7, 2365-2371
https://exaly.com/article/51460027

2010

59 **Prospects of Colloidal Nanocrystals for Electronic and Optoelectronic Applications** — 4,110 citations
Chemical Reviews · 110, 389-458
https://exaly.com/article/47801309

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2010 / continued

60 **Probing the Surface of Transition-Metal Nanocrystals by Chemiluminesence**
Journal of the American Chemical Society · 132, 9102-10
https://exaly.com/article/49273902
30 citations

61 **Organization of Nanoparticles**
Journal unavailable
https://exaly.com/article/49274239
2 citations

62 **Mechanical Properties of Face-Centered Cubic Supercrystals of Nanocrystals**
Nano Letters · 10, 2363-7
https://exaly.com/article/49401050
94 citations

63 **The Role of Order, Nanocrystal Size, and Capping Ligands in the Collective Mechanical Response of Three-Dimensional Nanocrystal Solids**
Journal of the American Chemical Society · 132, 8953-60
https://exaly.com/article/49408549
175 citations

64 **“Magnet-in-the-Semiconductor” FePt−PbS and FePt−PbSe Nanostructures: Magnetic Properties, Charge Transport, and Magnetoresistance**
Journal of the American Chemical Society · 132, 6382-91
https://exaly.com/article/49415217
81 citations

65 **Size-Dependent Multiple Twinning in Nanocrystal Superlattices**
Journal of the American Chemical Society · 132, 289-96
https://exaly.com/article/49606217
159 citations

2009

66 **Quasicrystalline Order in Self-Assembled Binary Nanoparticle Superlattices**
Nature · 461, 964-967
https://exaly.com/article/46331478
608 citations

67 **Comparison of Structural Behavior of Nanocrystals in Randomly Packed Films and Long-Range Ordered Superlattices by Time-Resolved Small Angle X-Ray Scattering**
Journal of the American Chemical Society · 131, 16386-8
https://exaly.com/article/46652019
65 citations

2008

68 **Gold/Iron Oxide Core/Hollow-Shell Nanoparticles**
Advanced Materials · 20, 4323-4329
https://exaly.com/article/43442535
328 citations

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2008 / continued

69 **Au–PbS Core–Shell Nanocrystals: Plasmonic Absorption Enhancement and Electrical Doping via Intra-Particle Charge Transfer** — 340 citations

Journal of the American Chemical Society · 130, 9673-5

https://exaly.com/article/43931297

70 **Self-Assembled Binary Superlattices of CdSe and Au Nanocrystals and Their Fluorescence Properties** — 211 citations

Journal of the American Chemical Society · 130, 3274-5

https://exaly.com/article/44353565

71 **Self-Assembly of Semiconductor Nanocrystals Into Ordered Superstructures** — 12 citations

Journal unavailable

https://exaly.com/article/44637125

2007

72 **Dipole–Dipole Interactions in Nanoparticle Superlattices** — 331 citations

Nano Letters · 7, 1213-9

https://exaly.com/article/42003624

73 **Synthesis of Colloidal PbSe/PbS Core–Shell Nanowires and PbS/Au Nanowire–Nanocrystal Heterostructures** — 118 citations

Journal of Physical Chemistry C · 111, 14049-14054

https://exaly.com/article/42107224

74 **SnTe Nanocrystals: A New Example of Narrow-Gap Semiconductor Quantum Dots** — 165 citations

Journal of the American Chemical Society · 129, 11354-5

https://exaly.com/article/42125296

75 **Seeded Growth of Highly Luminescent CdSe/CdS Nanoheterostructures With Rod and Tetrapod Morphologies** — 776 citations

Nano Letters · 7, 2951-9

https://exaly.com/article/42192441

76 **Vacancy Coalescence During Oxidation of Iron Nanoparticles** — 329 citations

Journal of the American Chemical Society · 129, 10358-60

https://exaly.com/article/42425791

77 **Alignment, Electronic Properties, Doping, and On-Chip Growth of Colloidal PbSe Nanowires** — 53 citations

Journal of Physical Chemistry C · 111, 13244-13249

https://exaly.com/article/42426044

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2007 / continued

78 Synergism in Binary Nanocrystal Superlattices Leads to Enhanced p-Type Conductivity in Self-Assembled PbTe/Ag2Te Thin Films
525 citations
Nature Materials · 6, 115-121
https://exaly.com/article/42810241

2006

79 Novel Inorganic Materials for Solution-Processed Electronics
0 citations
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80 Self-Assembly of PbTe Quantum Dots Into Nanocrystal Superlattices and Glassy Films
324 citations
Journal of the American Chemical Society · 128, 3248-55
https://exaly.com/article/39753981

81 Structural Characterization of Self-Assembled Multifunctional Binary Nanoparticle Superlattices
505 citations
Journal of the American Chemical Society · 128, 3620-37
https://exaly.com/article/39767977

82 Structural Diversity in Binary Nanoparticle Superlattices
2,123 citations
Nature · 439, 55-59
https://exaly.com/article/40443832

2005

83 Polymorphism in AB13 Nanoparticle Superlattices: An Example of Semiconductor–Metal Metamaterials
168 citations
Journal of the American Chemical Society · 127, 8741-7
https://exaly.com/article/39288749

84 Determination of Nanocrystal Sizes: A Comparison of TEM, SAXS, and XRD Studies of Highly Monodisperse CoPt3 Particles
694 citations
Langmuir · 21, 1931-6
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85 Magnetic Nanocrystals and Their Superstructures
0 citations
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2004

86 **Quantum Dot Chemiluminescence** — 279 citations
Nano Letters · 4, 693-698
https://exaly.com/article/37393071

87 **Insulator-to-Metal Transition in Nanocrystal Assemblies Driven by in Situ Mild Thermal Annealing** — 53 citations
Nano Letters · 4, 1289-1293
https://exaly.com/article/37417654

88 **CdSe and CdSe/CdS Nanorod Solids** — 291 citations
Journal of the American Chemical Society · 126, 12984-8
https://exaly.com/article/37567849

89 **Multicomponent Assembly of Nanocrystals** — 0 citations
Journal unavailable · 5554, 215-222
https://exaly.com/article/37772781

2003

90 **Study of Nucleation and Growth in the Organometallic Synthesis of Magnetic Alloy Nanocrystals: The Role of Nucleation Rate in Size Control of CoPt3 Nanocrystals** — 498 citations
Journal of the American Chemical Society · 125, 9090-101
https://exaly.com/article/35375897

91 **Self-Assembly of CoPt3 Nanoparticle Rings Based on Phase-Separated Hexadecylamine Droplet Structure** — 30 citations
Langmuir · 19, 9573-9576
https://exaly.com/article/35415217

92 **Syntheses and Characterizations: 3.2 Synthesis of Metal Nanoparticles** — 4 citations
Journal unavailable
https://exaly.com/article/35578998

93 **Conclusions and Perspectives** — 1 citations
Journal unavailable
https://exaly.com/article/35598606

2002

94 **Dynamic Distribution of Growth Rates Within the Ensembles of Colloidal II–VI and III–V Semiconductor Nanocrystals as a Factor Governing Their Photoluminescence Efficiency** — 481 citations
Journal of the American Chemical Society · 124, 5782-90
https://exaly.com/article/34239025

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2002 / continued

95 **Colloidal Synthesis and Self-Assembly of CoPt3 Nanocrystals**

535 citations

Journal of the American Chemical Society · 124, 11480-5

https://exaly.com/article/34298093

96 **Thiol-Capping of CdTe Nanocrystals: An Alternative to Organometallic Synthetic Routes**

1,543 citations

Journal of Physical Chemistry B · 106, 7177-7185

https://exaly.com/article/34790437

End of list · 96 articles. Citation counts use Exaly's peer-reviewed cohort.