Maksym Yarema

List of Publications by Year
in descending order

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64 papers	2,882 citations	185998 28 h-index	168136 53 g-index
64 all docs	64 docs citations	64 times ranked	4629 citing authors

#	Article	IF	Citations
1	Monodisperse and Inorganically Capped Sn and Sn/SnO₂ Nanocrystals for High-Performance Li-Ion Battery Anodes. Journal of the American Chemical Society, 2013, 135, 4199-4202.	6.6	346
2	Colloidal quantum dot electronics. Nature Electronics, 2021, 4, 548-558.	13.1	192
3	Infrared Emitting and Photoconducting Colloidal Silver Chalcogenide Nanocrystal Quantum Dots from a Silylamide-Promoted Synthesis. ACS Nano, 2011, 5, 3758-3765.	7.3	164
4	Tuning the Composition of Multicomponent Semiconductor Nanocrystals: The Case of Iâ€“IIIâ€“VI Materials. Chemistry of Materials, 2018, 30, 1446-1461.	3.2	155
5	Monodisperse Colloidal Gallium Nanoparticles: Synthesis, Low Temperature Crystallization, Surface Plasmon Resonance and Li-Ion Storage. Journal of the American Chemical Society, 2014, 136, 12422-12430.	6.6	133
6	Soft surfaces of nanomaterials enable strong phonon interactions. Nature, 2016, 531, 618-622.	13.7	133
7	Solutionâ€Processable Nearâ€IR Photodetectors Based on Electron Transfer from PbS Nanocrystals to Fullerene Derivatives. Advanced Materials, 2009, 21, 683-687.	11.1	121
8	Highly Luminescent, Size- and Shape-Tunable Copper Indium Selenide Based Colloidal Nanocrystals. Chemistry of Materials, 2013, 25, 3753-3757.	3.2	113
9	PbS nanocrystal solar cells with high efficiency and fill factor. Applied Physics Letters, 2010, 97, .	1.5	108
10	Low Driving Voltage and High Mobility Ambipolar Fieldâ€Effect Transistors with PbS Colloidal Nanocrystals. Advanced Materials, 2013, 25, 4309-4314.	11.1	107
11	Highly Monodisperse Bismuth Nanoparticles and Their Three-Dimensional Superlattices. Journal of the American Chemical Society, 2010, 132, 15158-15159.	6.6	91
12	Exploring the Origin of the Temperatureâ€Dependent Behavior of PbS Nanocrystal Thin Films and Solar Cells. Advanced Functional Materials, 2012, 22, 1598-1605.	7.8	71
13	Independent Composition and Size Control for Highly Luminescent Indium-Rich Silver Indium Selenide Nanocrystals. ACS Nano, 2015, 9, 11134-11142.	7.3	70
14	Spontaneous and reversible hollowing of alloy anode nanocrystals for stable battery cycling. Nature Nanotechnology, 2020, 15, 475-481.	15.6	68
15	Chargeâ€Separation Dynamics in Inorganicâ€“Organic Ternary Blends for Efficient Infrared Photodiodes. Advanced Functional Materials, 2011, 21, 1988-1992.	7.8	61
16	Size-Dependent Electron Transfer from Colloidal PbS Nanocrystals to Fullerene. Journal of Physical Chemistry Letters, 2010, 1, 1149-1154.	2.1	54
17	Colloidal Synthesis of InSb Nanocrystals with Controlled Polymorphism Using Indium and Antimony Amides. Chemistry of Materials, 2013, 25, 1788-1792.	3.2	51
18	Upscaling Colloidal Nanocrystal Hot-Injection Syntheses via Reactor Underpressure. Chemistry of Materials, 2017, 29, 796-803.	3.2	51

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19	Charge transport in semiconductors assembled from nanocrystal quantum dots. Nature Communications, 2020, 11, 2852.	5.8	51
20	Charge separation dynamics in a narrow band gap polymerâ€“PbS nanocrystal blend for efficient hybrid solar cells. Journal of Materials Chemistry, 2012, 22, 24411.	6.7	48
21	From Highly Monodisperse Indium and Indium Tin Colloidal Nanocrystals to Self-Assembled Indium Tin Oxide Nanoelectrodes. ACS Nano, 2012, 6, 4113-4121.	7.3	48
22	Crystal Phase Transitions in the Shell of PbS/CdS Core/Shell Nanocrystals Influences Photoluminescence Intensity. Chemistry of Materials, 2014, 26, 5914-5922.	3.2	44
23	Precision synthesis of colloidal inorganic nanocrystals using metal and metalloid amides. Nanoscale, 2013, 5, 8398.	2.8	42
24	Hole Mobility in Nanocrystal Solids as a Function of Constituent Nanocrystal Size. Journal of Physical Chemistry Letters, 2014, 5, 3522-3527.	2.1	41
25	Determination of the Electronic Energy Levels of Colloidal Nanocrystals using Fieldâ€Effect Transistors and Abâ€Initio Calculations. Advanced Materials, 2014, 26, 5639-5645.	11.1	33
26	Size, Ligand, and Defect-Dependent Electronâ€“Phonon Coupling in Chalcogenide and Perovskite Nanocrystals and Its Impact on Luminescence Line Widths. ACS Photonics, 2020, 7, 1088-1095.	3.2	31
27	Evaluation of Ordering in Single-Component and Binary Nanocrystal Superlattices by Analysis of Their Autocorrelation Functions. ACS Nano, 2011, 5, 1703-1712.	7.3	30
28	Size- and composition-controlled intermetallic nanocrystals via amalgamation seeded growth. Science Advances, 2021, 7, .	4.7	30
29	Sizeâ€Dependent Charge Transfer in Blends of PbS Quantum Dots with a Lowâ€Gap Siliconâ€Bridged Copolymer. Advanced Energy Materials, 2013, 3, 1490-1499.	10.2	29
30	Machine Learning for Analysis of Time-Resolved Luminescence Data. ACS Photonics, 2018, 5, 4888-4895.	3.2	29
31	Nanocrystal superlattices as phonon-engineered solids and acoustic metamaterials. Nature Communications, 2019, 10, 4236.	5.8	25
32	Colloidal Phase-Change Materials: Synthesis of Monodisperse GeTe Nanoparticles and Quantification of Their Size-Dependent Crystallization. Chemistry of Materials, 2018, 30, 6134-6143.	3.2	24
33	Cuâ€“Inâ€“Te and Agâ€“Inâ€“Te colloidal nanocrystals with tunable composition and size. Chemical Communications, 2016, 52, 10878-10881.	2.2	22
34	Measuring the Electronic Structure of Nanocrystal Thin Films Using Energy-Resolved Electrochemical Impedance Spectroscopy. Journal of Physical Chemistry Letters, 2018, 9, 1384-1392.	2.1	22
35	Low temperature hydrothermal synthesis of battery grade lithium iron phosphate. RSC Advances, 2017, 7, 17763-17767.	1.7	21
36	Measuring the Vibrational Density of States of Nanocrystal-Based Thin Films with Inelastic X-ray Scattering. Journal of Physical Chemistry Letters, 2018, 9, 1561-1567.	2.1	20

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37	Optical Properties of Amorphous and Crystalline GeTe Nanoparticle Thin Films: A Phase-Change Material for Tunable Photonics. ACS Applied Nano Materials, 2020, 3, 4314-4320.	2.4	20
38	Composition- and Size-Controlled Iâ€“Vâ€“VI Semiconductor Nanocrystals. Chemistry of Materials, 2020, 32, 2078-2085.	3.2	16
39	In Situ Measurement and Control of the Fermi Level in Colloidal Nanocrystal Thin Films during Their Fabrication. Journal of Physical Chemistry Letters, 2018, 9, 7165-7172.	2.1	14
40	Dopants and Traps in Nanocrystal-Based Semiconductor Thin Films: Origins and Measurement of Electronic Midgap States. ACS Applied Electronic Materials, 2020, 2, 398-404.	2.0	13
41	Nanocrystal Quantum Dot Devices: How the Lead Sulfide (PbS) System Teaches Us the Importance of Surfaces. Chimia, 2021, 75, 398.	0.3	13
42	In Situ Monitoring of Cation-Exchange Reaction Shell Growth on Nanocrystals. Journal of Physical Chemistry C, 2017, 121, 24345-24351.	1.5	12
43	Simulating nanocrystal-based solar cells: A lead sulfide case study. Journal of Chemical Physics, 2019, 151, 241104.	1.2	12
44	Surface modification of semiconductor nanocrystals by a methanofullerene carboxylic acid. Journal of Materials Chemistry, 2010, 20, 8470.	6.7	11
45	Metasurface Colloidal Quantum Dot Photodetectors. ACS Photonics, 2022, 9, 482-492.	3.2	11
46	Mapping the Atomistic Structure of Graded Core/Shell Colloidal Nanocrystals. Scientific Reports, 2017, 7, 11718.	1.6	10
47	Scanning microwave microscopy and scanning capacitance microscopy on colloidal nanocrystals. Journal of Applied Physics, 2011, 109, 064313.	1.1	9
48	Galvanic Exchange in Colloidal Metal/Metal-Oxide Core/Shell Nanocrystals. Journal of Physical Chemistry C, 2016, 120, 19848-19855.	1.5	9
49	Recombination Dynamics in PbS Nanocrystal Quantum Dot Solar Cells Studied through Driftâ€“Diffusion Simulations. ACS Applied Electronic Materials, 2021, 3, 4977-4989.	2.0	8
50	A Shapeâ€Induced Orientation Phase within 3D Nanocrystal Solids. Advanced Materials, 2018, 30, e1802078.	11.1	7
51	Editorial: Colloidal Semiconductor Nanocrystals: Synthesis, Properties, and Applications. Frontiers in Chemistry, 2019, 7, 684.	1.8	6
52	R4Ir13Ge9 (R=La, Ce, Pr, Nd, Sm) and RIr3Ge2 (R=La, Ce, Pr, Nd): Crystal structures with nets of Ir atoms. Journal of Solid State Chemistry, 2012, 196, 72-78.	1.4	5
53	Synthesis of small Agâ€“Sbâ€“Te nanocrystals with composition control. Journal of Materials Chemistry C, 2020, 8, 15985-15989.	2.7	5
54	Concentration and excitation effects on the exciton dynamics of poly(3-hexylthiophene)/PbS quantum dot blend films. Nanotechnology, 2013, 24, 235707.	1.3	4

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55	Variable wavelength photocurrent mapping on PbS quantum dot: fullerene thin films by conductive atomic force microscopy. Semiconductor Science and Technology, 2011, 26, 095002.	1.0	3
56	Optical Transitions in Silver Indium Selenide Nanocrystals: Implications for Light-Emitting and Light-Imaging Applications. ACS Applied Nano Materials, 2021, 4, 11239-11248.	2.4	3
57	Searching for better X-ray and Î³-ray photodetectors: structureâ€“composition properties of the TlPb₂Br_{5â^'x}I_x quaternary system. Materials Advances, 0, , .	2.6	3
58	In Situ Formation of Lithium Polyacrylate Binder for Aqueous Manufacturing and Recycling of Ni-Rich Cathodes. Journal of the Electrochemical Society, 0, , .	1.3	3
59	Engineering of Oxide Protected Gold Nanoparticles. Journal of Physical Chemistry Letters, 2022, 13, 5824-5830.	2.1	3
60	Phase transitions in germanium telluride nanoparticle phase-change materials studied by temperature-resolved x-ray diffraction. Journal of Applied Physics, 2021, 129, 095102.	1.1	2
61	AFMâ€based photocurrent imaging of epitaxial and colloidal QDs. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 426-428.	0.8	1
62	Quasistatic Dielectric Constants Of Colloidal Nanocrystals. , 2011, , .		0
63	Mapping the Local Photoresponse of Epitaxial and Colloidal Quantum Dots by Photoconductive Atomic Force Microscopy. , 2011, , .		0
64	High precision positioning of plasmonic nanoparticle based on damascene process. , 2012, , .		0