

# Alyona Sukhanova

## List of Publications by Year in descending order

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111  
papers

5,024  
citations

126708

33  
h-index

91712

69  
g-index

115  
all docs

115  
docs citations

115  
times ranked

7269  
citing authors

#	ARTICLE	IF	CITATIONS
1	Dependence of Nanoparticle Toxicity on Their Physical and Chemical Properties. <i>Nanoscale Research Letters</i> , 2018, 13, 44.	3.1	713
2	Molecular Interaction of Proteins and Peptides with Nanoparticles. <i>ACS Nano</i> , 2012, 6, 4585-4602.	7.3	378
3	Biocompatible fluorescent nanocrystals for immunolabeling of membrane proteins and cells. <i>Analytical Biochemistry</i> , 2004, 324, 60-67.	1.1	312
4	Energy Transfer in Aqueous Solutions of Oppositely Charged CdSe/ZnS Core/Shell Quantum Dots and in Quantum Dot-Nanogold Assemblies. <i>Nano Letters</i> , 2004, 4, 451-457.	4.5	225
5	Nonfunctionalized Nanocrystals Can Exploit a Cell's Active Transport Machinery Delivering Them to Specific Nuclear and Cytoplasmic Compartments. <i>Nano Letters</i> , 2007, 7, 3452-3461.	4.5	219
6	Quantum Dot Surface Chemistry and Functionalization for Cell Targeting and Imaging. <i>Bioconjugate Chemistry</i> , 2015, 26, 609-624.	1.8	195
7	Controlled antibody/(bio-) conjugation of inorganic nanoparticles for targeted delivery. <i>Advanced Drug Delivery Reviews</i> , 2013, 65, 677-688.	6.6	169
8	Fluorescent Quantum Dots as Artificial Antennas for Enhanced Light Harvesting and Energy Transfer to Photosynthetic Reaction Centers. <i>Angewandte Chemie - International Edition</i> , 2010, 49, 7217-7221.	7.2	167
9	Quantum Dot-Based Nanotools for Bioimaging, Diagnostics, and Drug Delivery. <i>ChemBioChem</i> , 2016, 17, 2103-2114.	1.3	144
10	Oriented conjugates of single-domain antibodies and quantum dots: toward a new generation of ultrasmall diagnostic nanoprobables. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2012, 8, 516-525.	1.7	140
11	Highly Stable Fluorescent Nanocrystals as a Novel Class of Labels for Immunohistochemical Analysis of Paraffin-Embedded Tissue Sections. <i>Laboratory Investigation</i> , 2002, 82, 1259-1261.	1.7	135
12	Synthesis of Quantum Dot-Tagged Submicrometer Polystyrene Particles by Miniemulsion Polymerization. <i>Langmuir</i> , 2006, 22, 1810-1816.	1.6	132
13	Fluorescent nanocrystal-encoded microbeads for multiplexed cancer imaging and diagnosis. <i>Critical Reviews in Oncology/Hematology</i> , 2008, 68, 39-59.	2.0	99
14	Nanocrystal-Encoded Fluorescent Microbeads for Proteomics: Antibody Profiling and Diagnostics of Autoimmune Diseases. <i>Nano Letters</i> , 2007, 7, 2322-2327.	4.5	96
15	Highly Sensitive Single Domain Antibody-Quantum Dot Conjugates for Detection of HER2 Biomarker in Lung and Breast Cancer Cells. <i>ACS Nano</i> , 2014, 8, 5682-5695.	7.3	89
16	Resonance Energy Transfer Improves the Biological Function of Bacteriorhodopsin within a Hybrid Material Built from Purple Membranes and Semiconductor Quantum Dots. <i>Nano Letters</i> , 2010, 10, 2640-2648.	4.5	80
17	Optically and Electrically Controlled Circularly Polarized Emission from Cholesteric Liquid Crystal Materials Doped with Semiconductor Quantum Dots. <i>Advanced Materials</i> , 2012, 24, 6216-6222.	11.1	78
18	Functionalized nanocrystal-tagged fluorescent polymer beads: synthesis, physicochemical characterization, and immunolabeling application. <i>Analytical Biochemistry</i> , 2004, 334, 257-265.	1.1	77

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19	Synthesis, biological activity and comparative analysis of DNA binding affinities and human DNA topoisomerase I inhibitory activities of novel 12-alkoxy-benzo[c]phenanthridinium salts. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2001, 11, 2643-2646.	1.0	71
20	Probing Cell-Type-Specific Intracellular Nanoscale Barriers Using Size-Tuned Quantum Dots. <i>Small</i> , 2009, 5, 2581-2588.	5.2	68
21	Quantum dot-based lab-on-a-bead system for multiplexed detection of free and total prostate-specific antigens in clinical human serum samples. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2015, 11, 1065-1075.	1.7	68
22	Controlled Self-Assembly of Nanocrystals into Polycrystalline Fluorescent Dendrites with Energy-Transfer Properties. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 2048-2052.	7.2	66
23	Multiphoton imaging of tumor biomarkers with conjugates of single-domain antibodies and quantum dots. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2014, 10, 1701-1709.	1.7	59
24	DNA-assisted formation of quasi-nanowires from fluorescent CdSe/ZnS nanocrystals. <i>Nanotechnology</i> , 2006, 17, 581-587.	1.3	57
25	Molecular Determinants of Site-specific Inhibition of Human DNA Topoisomerase I by Fagaronine and Ethoxidine. <i>Journal of Biological Chemistry</i> , 2000, 275, 3501-3509.	1.6	53
26	Semiconductor quantum dots for multiplexed bio-detection on solid-state microarrays. <i>Critical Reviews in Oncology/Hematology</i> , 2010, 74, 1-15.	2.0	53
27	Engineering a Robust Photovoltaic Device with Quantum Dots and Bacteriorhodopsin. <i>Journal of Physical Chemistry C</i> , 2014, 118, 16710-16717.	1.5	47
28	New directions in quantum dot-based cytometry detection of cancer serum markers and tumor cells. <i>Critical Reviews in Oncology/Hematology</i> , 2013, 86, 1-14.	2.0	46
29	Graphene quantum dots unraveling: Green synthesis, characterization, radiolabeling with <sup>99m</sup> Tc, in vivo behavior and mutagenicity. <i>Materials Science and Engineering C</i> , 2019, 102, 405-414.	3.8	43
30	Quantum-dot-based suspension microarray for multiplex detection of lung cancer markers: preclinical validation and comparison with the Luminex xMAP® system. <i>Scientific Reports</i> , 2017, 7, 44668.	1.6	38
31	Cancer Cell Targeting With Functionalized Quantum Dot-Encoded Polyelectrolyte Microcapsules. <i>Frontiers in Chemistry</i> , 2019, 7, 34.	1.8	37
32	Advanced procedures for labeling of antibodies with quantum dots. <i>Analytical Biochemistry</i> , 2011, 416, 180-185.	1.1	36
33	Single- and two-photon imaging of human micrometastases and disseminated tumour cells with conjugates of nanobodies and quantum dots. <i>Scientific Reports</i> , 2018, 8, 4595.	1.6	34
34	Quantum dot-containing polymer particles with thermosensitive fluorescence. <i>Biosensors and Bioelectronics</i> , 2013, 39, 187-193.	5.3	33
35	Label-Free Flow Multiplex Biosensing via Photonic Crystal Surface Mode Detection. <i>Scientific Reports</i> , 2019, 9, 8745.	1.6	32
36	Emerging applications of fluorescent nanocrystals quantum dots for micrometastases detection. <i>Proteomics</i> , 2010, 10, 700-716.	1.3	31

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37	Immunohistochemical study of DNA topoisomerase I, DNA topoisomerase II $\alpha$ , p53, and Ki-67 in oral preneoplastic lesions and oral squamous cell carcinomas. <i>Human Pathology</i> , 2004, 35, 745-751.	1.1	29
38	Comparative Efficiency of Energy Transfer from CdSe/ZnS Quantum Dots or Nanorods to Organic Dye Molecules. <i>ChemPhysChem</i> , 2012, 13, 330-335.	1.0	29
39	Combined Scanning Probe Nanotomography and Optical Microspectroscopy: A Correlative Technique for 3D Characterization of Nanomaterials. <i>ACS Nano</i> , 2013, 7, 8953-8962.	7.3	29
40	Nanoparticles With a Specific Size and Surface Charge Promote Disruption of the Secondary Structure and Amyloid-Like Fibrillation of Human Insulin Under Physiological Conditions. <i>Frontiers in Chemistry</i> , 2019, 7, 480.	1.8	29
41	Large Enhancement of Nonlinear Optical Response in a Hybrid Nanobiomaterial Consisting of Bacteriorhodopsin and Cadmium Telluride Quantum Dots. <i>ACS Nano</i> , 2013, 7, 2154-2160.	7.3	28
42	Fluorescent nanocrystal quantum dots as medical diagnostic tools. <i>Expert Opinion on Medical Diagnostics</i> , 2008, 2, 429-447.	1.6	25
43	Charge-controlled assembling of bacteriorhodopsin and semiconductor quantum dots for fluorescence resonance energy transfer-based nanophotonic applications. <i>Applied Physics Letters</i> , 2011, 98, 013703.	1.5	25
44	Detection of carcinoembryonic antigen using single-domain or full-size antibodies stained with quantum dot conjugates. <i>Analytical Biochemistry</i> , 2015, 478, 26-32.	1.1	24
45	Lab-in-a-drop: controlled self-assembly of CdSe/ZnS quantum dots and quantum rods into polycrystalline nanostructures with desired optical properties. <i>Nanotechnology</i> , 2007, 18, 185602.	1.3	23
46	Linear and nonlinear optical effects induced by energy transfer from semiconductor nanoparticles to photosynthetic biological systems. <i>Journal of Photochemistry and Photobiology C: Photochemistry Reviews</i> , 2014, 20, 17-32.	5.6	23
47	Engineering of Optically Encoded Microbeads with FRET-Free Spatially Separated Quantum Dot Layers for Multiplexed Assays. <i>ChemPhysChem</i> , 2017, 18, 970-979.	1.0	23
48	Engineering of ultra-small diagnostic nanoprobe through oriented conjugation of single-domain antibodies and quantum dots. <i>Protocol Exchange</i> , 0, , .	0.3	23
49	Structural Basis of Topotecan's DNA Recognition Probed by Flow Linear Dichroism, Circular Dichroism, and Raman Spectroscopy. <i>Journal of Physical Chemistry B</i> , 2001, 105, 9643-9652.	1.2	21
50	Interaction of clinically important human DNA topoisomerase I poison, topotecan, with double-stranded DNA. <i>Biopolymers</i> , 2003, 72, 442-454.	1.2	20
51	Self-assembly of charged microclusters of CdSe/ZnS core/shell nanodots and nanorods into hierarchically ordered colloidal arrays. <i>Nanotechnology</i> , 2006, 17, 4223-4228.	1.3	20
52	Chemical substitution of Cd ions by Hg in CdSe nanorods and nanodots: Spectroscopic and structural examination. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2012, 177, 744-749.	1.7	20
53	Bioimaging Tools Based on Polyelectrolyte Microcapsules Encoded with Fluorescent Semiconductor Nanoparticles: Design and Characterization of the Fluorescent Properties. <i>Nanoscale Research Letters</i> , 2019, 14, 29.	3.1	20
54	Nano-biophotonic hybrid materials with controlled FRET efficiency engineered from quantum dots and bacteriorhodopsin. <i>Laser Physics Letters</i> , 2013, 10, 085901.	0.6	18

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55	Next-Generation Theranostic Agents Based on Polyelectrolyte Microcapsules Encoded with Semiconductor Nanocrystals: Development and Functional Characterization. <i>Nanoscale Research Letters</i> , 2018, 13, 30.	3.1	18
56	Raman and CD Spectroscopy of Recombinant 68-kDa DNA Human Topoisomerase I and Its Complex with Suicide DNA <sup>α</sup> Substrate <sup>ε</sup> . <i>Biochemistry</i> , 1998, 37, 14630-14642.	1.2	16
57	Fluorescent Colloidal Particles as Detection Tools in Biotechnology Systems. , 0, , 133-168.		16
58	Low-field magnetic circular dichroism in silver and gold colloidal nanoparticles of different sizes, shapes, and aggregation states. <i>Proceedings of SPIE</i> , 2012, , .	0.8	14
59	Tempo-spectral multiplexing in flow cytometry with lifetime detection using QD-encoded polymer beads. <i>Scientific Reports</i> , 2020, 10, 653.	1.6	14
60	Human DNA topoisomerase I inhibitory activities of synthetic polyamines relation to DNA aggregation. <i>Bioorganic and Medicinal Chemistry</i> , 2001, 9, 1255-1268.	1.4	13
61	Raman and surface-enhanced Raman scattering spectroscopy of bis-netropsins and their DNA complexes. <i>Biopolymers</i> , 2000, 57, 272-281.	1.2	12
62	Implications of protein structure instability: From physiological to pathological secondary structure. <i>Biopolymers</i> , 2012, 97, 577-588.	1.2	12
63	Controlling Charge Transfer from Quantum Dots to Polyelectrolyte Layers Extends Prospective Applications of Magneto-Optical Microcapsules. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 35882-35894.	4.0	12
64	Designing Functionalized Polyelectrolyte Microcapsules for Cancer Treatment. <i>Nanomaterials</i> , 2021, 11, 3055.	1.9	11
65	Design, Synthesis, and Use of MMP-2 Inhibitor-Conjugated Quantum Dots in Functional Biochemical Assays. <i>Bioconjugate Chemistry</i> , 2016, 27, 1067-1081.	1.8	9
66	Label-Free Detection of the Receptor-Binding Domain of the SARS-CoV-2 Spike Glycoprotein at Physiologically Relevant Concentrations Using Surface-Enhanced Raman Spectroscopy. <i>Biosensors</i> , 2022, 12, 300.	2.3	9
67	Quasi-nanowires from fluorescent semiconductor nanocrystals on the surface of oriented DNA molecules. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2006, 100, 854-861.	0.2	8
68	Structural and functional aspects of the interaction of proteins and peptides with nanoparticles. <i>Nanotechnologies in Russia</i> , 2013, 8, 700-720.	0.7	8
69	Biofunctionalized Polyelectrolyte Microcapsules Encoded with Fluorescent Semiconductor Nanocrystals for Highly Specific Targeting and Imaging of Cancer Cells. <i>Photonics</i> , 2019, 6, 117.	0.9	8
70	Oriented Conjugation of Single-Domain Antibodies and Quantum Dots. <i>Methods in Molecular Biology</i> , 2014, 1199, 129-140.	0.4	8
71	DNA structural alterations induced by bis-netropsins modulate human DNA topoisomerase I cleavage activity and poisoning by camptothecin. <i>Biochemical Pharmacology</i> , 2002, 64, 79-90.	2.0	7
72	Quantum dots induce charge-specific amyloid-like fibrillation of insulin at physiological conditions. <i>Proceedings of SPIE</i> , 2012, , .	0.8	6

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73	Multiphoton Imaging of Tumor Biomarkers in situ Using Single-domain Antibodies Conjugated with Quantum Dots in a Set Orientation. <i>Materials Today: Proceedings</i> , 2016, 3, 523-526.	0.9	6
74	Energy transfer processes in semiconductor quantum dots: bacteriorhodopsin hybrid system. , 2009, , .		5
75	Development and potential applications of microarrays based on fluorescent nanocrystal-encoded beads for multiplexed cancer diagnostics. <i>Proceedings of SPIE</i> , 2014, , .	0.8	5
76	Oriented Conjugates of Single-domain Antibodies and Fluorescent Quantum Dots for Highly Sensitive Detection of Tumor-associated Biomarkers in Cells and Tissues. <i>Physics Procedia</i> , 2015, 73, 228-234.	1.2	5
77	Novel cholesteric materials doped with CdSe/ZnS quantum dots with photo- and electro-tunable circularly polarized emission. <i>Proceedings of SPIE</i> , 2012, , .	0.8	4
78	Multiphoton Deep-Tissue Imaging of Micrometastases and Disseminated Cancer Cells Using Conjugates of Quantum Dots and Single-Domain Antibodies. <i>Methods in Molecular Biology</i> , 2021, 2350, 105-123.	0.4	4
79	Comparative Advantages and Limitations of Quantum Dots in Protein Array Applications. <i>Methods in Molecular Biology</i> , 2020, 2135, 259-273.	0.4	4
80	Raman spectroscopy of topotecan, an inhibitor of DNA topoisomerase I. <i>Optics and Spectroscopy (English Translation of Optika i Spektroskopiya)</i> , 2002, 93, 493-500.	0.2	3
81	Oriented conjugates of monoclonal and single-domain antibodies with quantum dots for flow cytometry and immunohistochemistry diagnostic applications. , 2012, , .		3
82	Semiconductor quantum dot toxicity in a mouse in vivo model. <i>Journal of Physics: Conference Series</i> , 2017, 784, 012013.	0.3	3
83	Human DNA topoisomerase I activity is affected by bisnetropsin's binding to DNA minor groove. <i>IUBMB Life</i> , 1998, 44, 997-1010.	1.5	2
84	Surface-enhanced Raman scattering spectroscopy of topotecan-DNA complexes: Binding to DNA induces topotecan dimerization. <i>Optics and Spectroscopy (English Translation of Optika i Spektroskopiya)</i> , 2017, 96, 1020-1025.	0.2	2
85	Bi-photon imaging and diagnostics using ultra-small diagnostic probes engineered from semiconductor nanocrystals and single-domain antibodies. , 2012, , .		2
86	Biosensing with thermosensitive fluorescent quantum dot-containing polymer particles. <i>Proceedings of SPIE</i> , 2012, , .	0.8	2
87	Multiplexed Analysis of Serum Breast and Ovarian Cancer Markers by Means of Suspension Bead-based quantum Dot Microarrays. <i>Physics Procedia</i> , 2015, 73, 235-240.	1.2	2
88	DNA binding induces conformational transition within human DNA topoisomerase I in solution. <i>Biopolymers</i> , 2002, 67, 369-375.	1.2	1
89	Semiconductor quantum dots affect fluidity of purple membrane from <i>Halobacterium salinarum</i> through disruption of bacteriorhodopsin trimer organization. <i>Proceedings of SPIE</i> , 2012, , .	0.8	1
90	Extension of the spectral range of bacteriorhodopsin functional activity by energy transfer from quantum dots. , 2012, , .		1

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91	Controlled FRET efficiency in nano-bio hybrid materials made from semiconductor quantum dots and bacteriorhodopsin. , 2012, , .		1
92	Quantification and imaging of HER2 protein using nanocrystals conjugated with single-domain antibodies. Journal of Physics: Conference Series, 2017, 784, 012016.	0.3	1
93	Advanced Nanotools for Imaging of Solid Tumors and Circulating and Disseminated Cancer Cells. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2018, 125, 703-707.	0.2	1
94	Advanced Procedure for Oriented Conjugation of Full-Size Antibodies with Quantum Dots. Methods in Molecular Biology, 2014, 1199, 55-66.	0.4	1
95	Engineering of fluorescent biomaging tools for cancer cell targeting based on polyelectrolyte microcapsules encoded with quantum dots. , 2019, , .		1
96	Stimulus-Sensitive Theranostic Delivery Systems Based on Microcapsules Encoded with Quantum Dots and Magnetic Nanoparticles. Methods in Molecular Biology, 2020, 2135, 199-212.	0.4	1
97	Multiplexed Detection of Cancer Serum Antigens with a Quantum Dot-Based Lab-on-Bead System. Methods in Molecular Biology, 2020, 2135, 225-236.	0.4	1
98	Fluorescence Measurements and AFM Imaging of Bacteriorhodopsin Coupled with CdSe Quantum Dots for Optoelectronic Applications. Materials Research Society Symposia Proceedings, 2009, 1237, 1.	0.1	0
99	Diagnostic nanoprobe based on the conjugates of quantum dots and single-domain antibodies for cancer biomarkers detection in immunohistochemistry and flow cytometry. , 2015, , .		0
100	Multiphoton imaging of tumor biomarkers in situ using highly oriented conjugates of single-domain antibodies and quantum dots. , 2015, , .		0
101	Nanosized Fluorescent Diagnostic Probes Consisting of Single-domain Antibodies Conjugated with Quantum Dots. Materials Today: Proceedings, 2016, 3, 518-522.	0.9	0
102	Improvement of antigen detection efficiency with the use of two-dimensional photonic crystal as a substrate. Journal of Physics: Conference Series, 2017, 784, 012018.	0.3	0
103	Use of semiconductor nanocrystals to encode microbeads for multiplexed analysis of biological samples. Journal of Physics: Conference Series, 2017, 784, 012012.	0.3	0
104	Nanophotonic Functional Imaging and Related Nanotoxicity Issues. , 2018, , .		0
105	Conversion of Semiconductor Nanoparticles to Plasmonic Materials by Targeted Substitution of Surface-Bound Organic Ligands. Technical Physics Letters, 2019, 45, 317-320.	0.2	0
106	Physical Interactions of Biopolymers with Nanoparticles. Bulletin of the Lebedev Physics Institute, 2019, 46, 306-308.	0.1	0
107	Chapter 5 Energy Transfer Mechanisms in Nanobiohybrid Structures Based on Quantum Dots and Photosensitive Membrane Proteins. , 2017, , 167-206.		0
108	Multiparametric detection of bacterial contamination based on the photonic crystal surface mode detection. Bulletin of Russian State Medical University, 2018, , 19-24.	0.3	0

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109	Development of a novel multi-photon microscopy-based method for the detection of micrometastases in vivo. <i>Journal of Biomedical Optics</i> , 2019, 24(1), 014001.	1.5	0
110	Nanophotonic tools based on the conjugates of nanoparticles with the single-domain antibodies for multi-photon micrometastases detection and ultrasensitive biochemical assays. <i>Journal of Biomedical Optics</i> , 2019, 24(1), 014001.	1.5	0
111	Nanoparticle-Doped Hybrid Polyelectrolyte Microcapsules with Controlled Photoluminescence for Potential Bioimaging Applications. <i>Polymers</i> , 2021, 13, 4076.	2.0	0