Natalia Klyachko

List of Publications by Year
in descending order

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111 papers	5,829 citations	147801 31 h-index	79698 73 g-index
118 all docs	118 docs citations	118 times ranked	6881 citing authors

#	Article	IF	Citations
1	Exosomes as drug delivery vehicles for Parkinson's disease therapy. Journal of Controlled Release, 2015, 207, 18-30.	9.9	1,363
2	Development of exosome-encapsulated paclitaxel to overcome MDR in cancer cells. Nanomedicine: Nanotechnology, Biology, and Medicine, 2016, 12, 655-664.	3.3	991
3	Engineering macrophage-derived exosomes for targeted paclitaxel delivery to pulmonary metastases: in vitro and in vivo evaluations. Nanomedicine: Nanotechnology, Biology, and Medicine, 2018, 14, 195-204.	3.3	469
4	Towards nanomedicines of the future: Remote magneto-mechanical actuation of nanomedicines by alternating magnetic fields. Journal of Controlled Release, 2015, 219, 43-60.	9.9	179
5	Macrophage delivery of therapeutic nanozymes in a murine model of Parkinsonâ€™s disease. Nanomedicine, 2010, 5, 379-396.	3.3	154
6	Macrophage-Derived Extracellular Vesicles as Drug Delivery Systems for Triple Negative Breast Cancer (TNBC) Therapy. Journal of NeuroImmune Pharmacology, 2020, 15, 487-500.	4.1	125
7	Specific Transfection of Inflamed Brain by Macrophages: A New Therapeutic Strategy for Neurodegenerative Diseases. PLoS ONE, 2013, 8, e61852.	2.5	124
8	Macrophages with cellular backpacks for targeted drug delivery to the brain. Biomaterials, 2017, 140, 79-87.	11.4	121
9	Well-defined cross-linked antioxidant nanozymes for treatment of ischemic brain injury. Journal of Controlled Release, 2012, 162, 636-645.	9.9	99
10	A simple and highly effective catalytic nanozyme scavenger for organophosphorus neurotoxins. Journal of Controlled Release, 2017, 247, 175-181.	9.9	86
11	TPP1 Delivery to Lysosomes with Extracellular Vesicles and their Enhanced Brain Distribution in the Animal Model of Batten Disease. Advanced Healthcare Materials, 2019, 8, e1801271.	7.6	83
12	Macrophages offer a paradigm switch for CNS delivery of therapeutic proteins. Nanomedicine, 2014, 9, 1403-1422.	3.3	78
13	Magnetite-Gold nanohybrids as ideal all-in-one platforms for theranostics. Scientific Reports, 2018, 8, 11295.	3.3	77
14	Cross-linked antioxidant nanozymes for improved delivery to CNS. Nanomedicine: Nanotechnology, Biology, and Medicine, 2012, 8, 119-129.	3.3	75
15	Bioorganic synthesis in reverse micelles and related systems. Current Opinion in Colloid and Interface Science, 2003, 8, 179-186.	7.4	73
16	Extracellular Vesicle-Based Therapeutics: Preclinical and Clinical Investigations. Pharmaceutics, 2020, 12, 1171.	4.5	60
17	In Vitro and In Vivo Electrochemical Measurement of Reactive Oxygen Species After Treatment with Anticancer Drugs. Analytical Chemistry, 2020, 92, 8010-8014.	6.5	58
18	Fluorescence dynamics of green fluorescent protein in AOT reversed micelles. Biophysical Chemistry, 2000, 87, 73-84.	2.8	55

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19	Polyelectrolyte complex optimization for macrophage delivery of redox enzyme nanoparticles. Nanomedicine, 2011, 6, 25-42.	3.3	54
20	Changing the Enzyme Reaction Rate in Magnetic Nanosuspensions by a Nonâ€Heating Magnetic Field. Angewandte Chemie - International Edition, 2012, 51, 12016-12019.	13.8	53
21	Blood-borne macrophageâ€“neural cell interactions hitchhike on endosome networks for cell-based nanozyme brain delivery. Nanomedicine, 2012, 7, 815-833.	3.3	51
22	pH-dependent Substrate Preference of Pig Heart Lipoamide Dehydrogenase Varies with Oligomeric State. Journal of Biological Chemistry, 2005, 280, 16106-16114.	3.4	49
23	Oxidation of Dibenzothiophene Catalyzed by Hemoglobin and Other Hemoproteins in Various Aqueous-Organic Media. Applied Biochemistry and Biotechnology, 1992, 37, 53-68.	2.9	48
24	Theranostic multimodal potential of magnetic nanoparticles actuated by non-heating low frequency magnetic field in the new-generation nanomedicine. Journal of Nanoparticle Research, 2017, 19, 1.	1.9	47
25	Multilayer polyion complex nanoformulations of superoxide dismutase 1 for acute spinal cord injury. Journal of Controlled Release, 2018, 270, 226-236.	9.9	45
26	Magnetic liposome design for drug release systems responsive to super-low frequency alternating current magnetic field (AC MF). Journal of Colloid and Interface Science, 2019, 552, 689-700.	9.4	45
27	Thermobarostability of Î±-chymotrypsin in reversed micelles of aerosol OT in octane solvated by water-glycerol mixtures. , 1998, 57, 552-556.		38
28	LysK, the enzyme lysing Staphylococcus aureus cells: Specific kinetic features and approaches towards stabilization. Biochimie, 2010, 92, 507-513.	2.6	38
29	Nanotechnology for Topical Drug Delivery to the Anterior Segment of the Eye. International Journal of Molecular Sciences, 2021, 22, 12368.	4.1	37
30	Synthesis, characterization and MRI application of magnetite water-soluble cubic nanoparticles. Journal of Magnetism and Magnetic Materials, 2017, 441, 6-13.	2.3	33
31	In Situ Observation of Chymotrypsin Catalytic Activity Change Actuated by Nonheating Low-Frequency Magnetic Field. ACS Nano, 2018, 12, 3190-3199.	14.6	33
32	Mapping mechanical properties of living cells at nanoscale using intrinsic nanopipetteâ€“sample force interactions. Nanoscale, 2021, 13, 6558-6568.	5.6	33
33	High-pressure stabilization of Î±-chymotrypsin entrapped in reversed micelles of aerosol OT in octane against thermal inactivation. FEBS Letters, 1995, 364, 98-100.	2.8	32
34	Enzyme-functionalized gold-coated magnetite nanoparticles as novel hybrid nanomaterials: Synthesis, purification and control of enzyme function by low-frequency magnetic field. Colloids and Surfaces B: Biointerfaces, 2015, 125, 104-109.	5.0	32
35	Size-selected Fe3O4â€“Au hybrid nanoparticles for improved magnetism-based theranostics. Beilstein Journal of Nanotechnology, 2018, 9, 2684-2699.	2.8	32
36	Peptidoglycan degrading activity of the broad-range Salmonella bacteriophage S-394 recombinant endolysin. Biochimie, 2014, 107, 293-299.	2.6	31

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37	Targeted delivery of anti-tuberculosis drugs to macrophages: targeting mannose receptors. Russian Chemical Reviews, 2018, 87, 374-391.	6.5	27
38	Laccases from Basidiomycetes: physicochemical characteristics and substrate specificity towards methoxyphenolic compounds. Biochemistry (Moscow), 2001, 66, 774-779.	1.5	26
39	Superoxide Dismutase 1 Nanozyme for Treatment of Eye Inflammation. Oxidative Medicine and Cellular Longevity, 2016, 2016, 1-13.	4.0	26
40	Synthesis, isomerization and biological activity of novel 2-selenohydantoin derivatives. Bioorganic and Medicinal Chemistry, 2016, 24, 802-811.	3.0	25
41	Small-Angle Neutron Scattering Study of the Effect of Pressure on AOTâ^'n-Octaneâ^'Water Mesophases and the Effect of Î±-Chymotrypsin Incorporation. Langmuir, 2002, 18, 8626-8632.	3.5	24
42	Micellar Enzymology: Superactivity of Enzymes in Reversed Micelles of Surfactants Solvated by Water/Organic Cosolvent Mixtures. Collection of Czechoslovak Chemical Communications, 1992, 57, 625-640.	1.0	24
43	Synthesis of Alkyl Glycosides Catalyzed by Î²-Glycosidases in a System of Reverse Micelles. Russian Journal of Bioorganic Chemistry, 2001, 27, 380-384.	1.0	23
44	Physicochemical characterization of the staphylolytic LysK enzyme in complexes with polycationic polymers as a potent antimicrobial. Biochimie, 2013, 95, 1689-1696.	2.6	23
45	Single-domain magnetic nanoparticles in an alternating magnetic field as mediators of local deformation of the surrounding macromolecules. Physics of the Solid State, 2014, 56, 1342-1351.	0.6	23
46	The dynamics of magnetic nanoparticles exposed to non-heating alternating magnetic field in biochemical applications: theoretical study. Journal of Nanoparticle Research, 2017, 19, 1.	1.9	23
47	Structure of an Acinetobacter Broad-Range Prophage Endolysin Reveals a C-Terminal Î±-Helix with the Proposed Role in Activity against Live Bacterial Cells. Viruses, 2018, 10, 309.	3.3	23
48	Use of Protease Inhibitors in Composite Polyelectrolyte Microparticles in Order to Increase the Bioavailability of Perorally Administered Encapsulated Proteins. Pharmaceutical Chemistry Journal, 2013, 47, 62-69.	0.8	22
49	A new approach to the control of biochemical reactions in a magnetic nanosuspension using a low-frequency magnetic field. Technical Physics Letters, 2013, 39, 240-243.	0.7	22
50	New Small-Molecule Glycoconjugates of Docetaxel and GalNAc for Targeted Delivery to Hepatocellular Carcinoma. Molecular Pharmaceutics, 2021, 18, 461-468.	4.6	21
51	Non-Heating Alternating Magnetic Field Nanomechanical Stimulation of Biomolecule Structures via Magnetic Nanoparticles as the Basis for Future Low-Toxic Biomedical Applications. Nanomaterials, 2021, 11, 2255.	4.1	21
52	Artificially glycosylated Î±-chymotrypsin in reversed micelles of Aerosol OT in octane. FEBS Letters, 1993, 336, 385-388.	2.8	18
53	Pressure-Induced Protein Unfolding in the Ternary System AOTâ^'Octaneâ^'Water Is Different from that in Bulk Water. Langmuir, 2005, 21, 3599-3604.	3.5	18
54	New Approaches to Nanotheranostics: Polyfunctional Magnetic Nanoparticles Activated by Non-Heating Low-Frequency Magnetic Field Control Biochemical System with Molecular Locality and Selectivity. Nanotechnologies in Russia, 2018, 13, 215-239.	0.7	18

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55	Protein extracting electrodes: Insights in the mechanism. Journal of Electroanalytical Chemistry, 2008, 623, 68-74.	3.8	17
56	Bacteriophage phi11 lysin: Physicochemical characterization and comparison with phage phi80Î± lysin. Enzyme and Microbial Technology, 2015, 73-74, 51-58.	3.2	16
57	A Chimeric LysK-Lysostaphin Fusion Enzyme Lysing Staphylococcus aureus Cells: a Study of Both Kinetics of Inactivation and Specifics of Interaction with Anionic Polymers. Applied Biochemistry and Biotechnology, 2016, 180, 544-557.	2.9	16
58	Luteinizing Hormone Releasing Hormone-Targeted Cisplatin-Loaded Magnetite Nanoclusters for Simultaneous MR Imaging and Chemotherapy of Ovarian Cancer. Chemistry of Materials, 2016, 28, 3024-3040.	6.7	15
59	Magnetic nanorods for remote disruption of lipid membranes by non-heating low frequency magnetic field. Nanomedicine: Nanotechnology, Biology, and Medicine, 2019, 21, 102065.	3.3	15
60	Superoxide Dismutase 1 Nanoparticles (Nano-SOD1) as a Potential Drug for the Treatment of Inflammatory Eye Diseases. Biomedicines, 2021, 9, 396.	3.2	15
61	Novel Doxorubicin Derivatives: Synthesis and Cytotoxicity Study in 2D and 3D in Vitro Models. Advanced Pharmaceutical Bulletin, 2017, 7, 593-601.	1.4	15
62	Single-domain magnetic nanoparticles as force generators for the nanomechanical control of biochemical reactions by low-frequency magnetic fields. Bulletin of the Russian Academy of Sciences: Physics, 2013, 77, 1350-1359.	0.6	13
63	Discovery of Bivalent GalNAc-Conjugated Betulin as a Potent ASGPR-Directed Agent against Hepatocellular Carcinoma. Bioconjugate Chemistry, 2021, 32, 763-781.	3.6	12
64	Mannosylated Cationic Copolymers for Gene Delivery to Macrophages. Macromolecular Bioscience, 2021, 21, e2000371.	4.1	12
65	In Vitro/In VivoElectrochemical Detection of Pt(II) Species. Analytical Chemistry, 2022, 94, 4901-4905.	6.5	12
66	Self-Assembled Amphiphilic Bilayers of Surfactant Brij-52 on Gold Electrodes. Electroanalysis, 1999, 11, 1094-1097.	2.9	11
67	Pressure Regulation of Malic Dehydrogenase in Reversed Micelles. Biochemical and Biophysical Research Communications, 1999, 254, 685-688.	2.1	11
68	Microencapsulated Multicellular Tumor Spheroids as a Tool to Test Novel Anticancer Nanosized Drug Delivery Systems <I>In Vitro</I>. Journal of Nanoscience and Nanotechnology, 2015, 15, 4806-4814.	0.9	11
69	Micronization of levofloxacin by supercritical antisolvent precipitation. Russian Journal of Physical Chemistry B, 2016, 10, 1201-1210.	1.3	11
70	Dioxadet-loaded nanogels as a potential formulation for glioblastoma treatment. Journal of Pharmaceutical Investigation, 2017, 47, 75-83.	5.3	11
71	Ways and Methods for Controlling Biomolecular Structures Using Magnetic Nanoparticles Activated by an Alternating Magnetic Field. Nanotechnologies in Russia, 2018, 13, 295-304.	0.7	11
72	Synthesis and Evaluation of New Trivalent Ligands for Hepatocyte Targeting via the Asialoglycoprotein Receptor. Bioconjugate Chemistry, 2020, 31, 1313-1319.	3.6	11

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73	Lisinopril in the composition of calcium phosphate nanoparticles as a promising antiglaucoma agent. Nanotechnologies in Russia, 2014, 9, 219-226.	0.7	10
74	Nanomechanical control of properties of biological membranes achieved by rodlike magnetic nanoparticles in a superlow-frequency magnetic field. Technical Physics Letters, 2015, 41, 455-457.	0.7	10
75	Chitosan-covered calcium phosphate particles as a drug vehicle for delivery to the eye. Nanomedicine: Nanotechnology, Biology, and Medicine, 2022, 40, 102493.	3.3	10
76	Enzyme Release from Polyion Complex by Extremely Low Frequency Magnetic Field. Scientific Reports, 2020, 10, 4745.	3.3	9
77	Room temperature synthesized solid solution AuFe nanoparticles and their transformation into Au/Fe Janus nanocrystals. Nanoscale, 2021, 13, 10402-10413.	5.6	8
78	Micellar Enzymology for Enzyme Engineering. Ideas and Realization. Annals of the New York Academy of Sciences, 1995, 750, 80-84.	3.8	7
79	Micellar enzymology: methodology and technique. Russian Chemical Bulletin, 2001, 50, 1718-1732.	1.5	7
80	Model of controlled drug release from functionalized magnetic nanoparticles by a nonheating alternating-current magnetic field. Technical Physics Letters, 2016, 42, 267-270.	0.7	7
81	Fabrication and evaluation of nanocontainers for lipophilic anticancer drug delivery in <scp>3D</scp> in vitro model. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2021, 109, 527-537.	3.4	7
82	Permeability of the Composite Magnetic Microcapsules Triggered by a Non-Heating Low-Frequency Magnetic Field. Pharmaceutics, 2022, 14, 65.	4.5	7
83	Poly(2-oxazoline)-magnetite NanoFerrogels: Magnetic field responsive theranostic platform for cancer drug delivery and imaging. Nanomedicine: Nanotechnology, Biology, and Medicine, 2022, 39, 102459.	3.3	6
84	Modulation of Î±-Chymotrypsin Conjugated to Magnetic Nanoparticles by the Non-Heating Low-Frequency Magnetic Field: Molecular Dynamics, Reaction Kinetics, and Spectroscopy Analysis. ACS Omega, 2022, 7, 20644-20655.	3.5	6
85	Choice of temperature for safflower oil hydrolysis catalyzed by Candida rugosa lipase. Moscow University Chemistry Bulletin, 2008, 63, 108-110.	0.6	5
86	Synthesis and characterization of PEG-silane functionalized iron oxide(II, III) nanoparticles for biomedical application. Nanotechnologies in Russia, 2015, 10, 896-903.	0.7	5
87	Mechanisms and conditions for mechanical activation of magnetic nanoparticles by external magnetic field for biomedical applications. Journal of Magnetism and Magnetic Materials, 2022, 553, 169278.	2.3	5
88	Bacteriophage enzymes for the prevention and treatment of bacterial infections: Stability and stabilization of the enzyme lysing Streptococcus pyogenes cells. Russian Journal of Bioorganic Chemistry, 2008, 34, 375-379.	1.0	4
89	Enzymes of SPZ7 phage: Isolation and properties. Biochemistry (Moscow), 2010, 75, 1160-1164.	1.5	4
90	Đ¡oreâ€“shell magnetiteâ€“gold nanoparticles: Preparing and functionalization by chymotrypsin. Nanotechnologies in Russia, 2016, 11, 144-152.	0.7	4

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91	Supramolecular assemblies of mucin and lysozyme: Formation and physicochemical characterization. Process Biochemistry, 2022, 113, 97-106.	3.7	4
92	Reverse Micellar Systems: General Methodology. , 2001, , 575-586.		3
93	Enzymes in membrane-like surfactant-based media: perspectives for pressure regulation. Progress in Biotechnology, 2002, 19, 159-165.	0.2	3
94	An investigation of the structure and function of antistaphylococcal endolysins using kinetic methods. Moscow University Chemistry Bulletin, 2014, 69, 107-111.	0.6	3
95	High Hydrostatic Pressure and Enzymology. , 1999, , 423-436.		3
96	Imaging-Guided Delivery of a Hydrophilic Drug to Eukaryotic Cells Based on Its Hydrophobic Ion Pairing with Poly(hexamethylene guanidine) in a Maleated Chitosan Carrier. Molecules, 2021, 26, 7426.	3.8	3
97	Investigation of the activity and stability of papain in different micellar systems. Moscow University Chemistry Bulletin, 2010, 65, 80-86.	0.6	2
98	Biomolecules in colloid nanocontainers for drug delivery: Entrapment and properties of the delta sleep-inducing peptide. Moscow University Chemistry Bulletin, 2010, 65, 175-179.	0.6	2
99	Stabilization of enzymes-antioxidants by complex and conjugate formation with block copolymers: Prospects for CNS treatment. Moscow University Chemistry Bulletin, 2010, 65, 190-196.	0.6	2
100	Kinetics of inactivation of staphylolytic enzymes: Qualitative and quantitative description. Biochimie, 2019, 162, 77-87.	2.6	2
101	A physicochemical, structural, microbiological and kinetic study of hen egg white lysozyme in complexes with alginate and chitosan. Biocatalysis and Biotransformation, 0, , 1-14.	2.0	2
102	Use of a Reverse Micelle System for Study of Oligomeric Structure of NAD+-Reducing Hydrogenase from Ralstonia eutropha H16. Biochemistry (Moscow), 2005, 70, 645-651.	1.5	1
103	Surfactant Aggregates as Matrix Nanocontainers for Proteins (Enzymes) Entrapment and Regulation. ACS Symposium Series, 2008, , 156-170.	0.5	1
104	Polycation stabilization of the enzyme LysK lysing Staphylococcus Aureus cells. Moscow University Chemistry Bulletin, 2009, 64, 382-384.	0.6	1
105	Synthesis of allobetulin-based asialoglycoprotein receptor-targeted glycoconjugates. Mendeleev Communications, 2019, 29, 526-528.	1.6	1
106	Bacteriophage SPZ7 endolysin: The influence of effectors on the lytic activity of the enzyme on the lysis of gram-negative microorganisms. Moscow University Chemistry Bulletin, 2010, 65, 186-189.	0.6	0
107	An investigation of the physicochemical properties of both glutathione peroxidase I and its complexes with polyelectrolytes as promising agents for the treatment of diseases of the central nervous system. Moscow University Chemistry Bulletin, 2014, 69, 112-116.	0.6	0
108	Electrochemical detection and imaging of reactive oxygen species in single living cells. Microscopy and Microanalysis, 2021, 27, 1720-1721.	0.4	0

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109	Enzymes in Reverse Micelles (Microemulsions). , 2002, , .		0
110	Detecting reactive oxygen species in biological fluids by platinum nanoelectrode applying amperometric method. Bulletin of Russian State Medical University, 2019, , 144-149.	0.2	0
111	Liposomal Form of 2,4-Dinitrophenol Lipophilic Derivatives as a Promising Therapeutic Agent for ATP Synthesis Inhibition. Nanomaterials, 2022, 12, 2162.	4.1	0