Shuming Nie

List of Publications by Year
in descending order

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112 papers	41,809 citations	19636 61 h-index	28275 105 g-index
112 all docs	112 docs citations	112 times ranked	41215 citing authors

#	Article	IF	Citations
1	Quantum Dot Bioconjugates for Ultrasensitive Nonisotopic Detection. , 1998, 281, 2016-2018.		6,494
2	In vivo cancer targeting and imaging with semiconductor quantum dots. Nature Biotechnology, 2004, 22, 969-976.	9.4	4,460
3	Therapeutic Nanoparticles for Drug Delivery in Cancer. Clinical Cancer Research, 2008, 14, 1310-1316.	3.2	2,565
4	Quantum-dot-tagged microbeads for multiplexed optical coding of biomolecules. Nature Biotechnology, 2001, 19, 631-635.	9.4	2,536
5	Second window for in vivo imaging. Nature Nanotechnology, 2009, 4, 710-711.	15.6	2,257
6	Present and Future of Surface-Enhanced Raman Scattering. ACS Nano, 2020, 14, 28-117.	7.3	2,153
7	In vivo tumor targeting and spectroscopic detection with surface-enhanced Raman nanoparticle tags. Nature Biotechnology, 2008, 26, 83-90.	9.4	2,107
8	Semiconductor Nanocrystals: Structure, Properties, and Band Gap Engineering. Accounts of Chemical Research, 2010, 43, 190-200.	7.6	1,517
9	In vivo molecular and cellular imaging with quantum dots. Current Opinion in Biotechnology, 2005, 16, 63-72.	3.3	1,131
10	Bioconjugated quantum dots for in vivo molecular and cellular imagingâˆ†. Advanced Drug Delivery Reviews, 2008, 60, 1226-1240.	6.6	1,067
11	Nanotechnology Applications in Cancer. Annual Review of Biomedical Engineering, 2007, 9, 257-288.	5.7	982
12	Diverse Applications of Nanomedicine. ACS Nano, 2017, 11, 2313-2381.	7.3	976
13	SERS Nanoparticles in Medicine: From Label-Free Detection to Spectroscopic Tagging. Chemical Reviews, 2015, 115, 10489-10529.	23.0	712
14	Single-Molecule and Single-Nanoparticle SERS:Â Examining the Roles of Surface Active Sites and Chemical Enhancement. Journal of Physical Chemistry B, 2002, 106, 311-317.	1.2	663
15	Stimuli-responsive clustered nanoparticles for improved tumor penetration and therapeutic efficacy. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 4164-4169.	3.3	617
16	Semiconductor Quantum Dots for Bioimaging and Biodiagnostic Applications. Annual Review of Analytical Chemistry, 2013, 6, 143-162.	2.8	559
17	Spectroscopic Tags Using Dye-Embedded Nanoparticles and Surface-Enhanced Raman Scattering. Analytical Chemistry, 2003, 75, 6171-6176.	3.2	522
18	Surface-Enhanced Raman Scattering Active Gold Nanoparticles with Enzyme-Mimicking Activities for Measuring Glucose and Lactate in Living Tissues. ACS Nano, 2017, 11, 5558-5566.	7.3	514

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19	Bioconjugated quantum dots for multiplexed and quantitative immunohistochemistry. Nature Protocols, 2007, 2, 1152-1165.	5.5	472
20	Smart Superstructures with Ultrahigh pH-Sensitivity for Targeting Acidic Tumor Microenvironment: Instantaneous Size Switching and Improved Tumor Penetration. ACS Nano, 2016, 10, 6753-6761.	7.3	461
21	Imaging and Tracking of Tat Peptide-Conjugated Quantum Dots in Living Cells:â€‰ New Insights into Nanoparticle Uptake, Intracellular Transport, and Vesicle Shedding. Journal of the American Chemical Society, 2007, 129, 14759-14766.	6.6	458
22	Cell-Penetrating Quantum Dots Based on Multivalent and Endosome-Disrupting Surface Coatings. Journal of the American Chemical Society, 2007, 129, 3333-3338.	6.6	440
23	A systematic examination of surface coatings on the optical and chemical properties of semiconductor quantum dots. Physical Chemistry Chemical Physics, 2006, 8, 3895.	1.3	413
24	OPTICAL DETECTION OF SINGLE MOLECULES. Annual Review of Biophysics and Biomolecular Structure, 1997, 26, 567-596.	18.3	409
25	Proton-Sponge Coated Quantum Dots for siRNA Delivery and Intracellular Imaging. Journal of the American Chemical Society, 2008, 130, 9006-9012.	6.6	387
26	Efficient Raman Enhancement and Intermittent Light Emission Observed in Single Gold Nanocrystals. Journal of the American Chemical Society, 1999, 121, 9208-9214.	6.6	361
27	Detection of Circulating Tumor Cells in Human Peripheral Blood Using Surface-Enhanced Raman Scattering Nanoparticles. Cancer Research, 2011, 71, 1526-1532.	0.4	327
28	Integrated Nanozymes with Nanoscale Proximity for in Vivo Neurochemical Monitoring in Living Brains. Analytical Chemistry, 2016, 88, 5489-5497.	3.2	290
29	Stimuli-responsive nanoparticles for targeting the tumor microenvironment. Journal of Controlled Release, 2015, 219, 205-214.	4.8	271
30	Hand-held Spectroscopic Device for In Vivo and Intraoperative Tumor Detection: Contrast Enhancement, Detection Sensitivity, and Tissue Penetration. Analytical Chemistry, 2010, 82, 9058-9065.	3.2	249
31	Probing Specific Sequences on Single DNA Molecules with Bioconjugated Fluorescent Nanoparticles. Analytical Chemistry, 2000, 72, 1979-1986.	3.2	248
32	Reexamining the Effects of Particle Size and Surface Chemistry on the Magnetic Properties of Iron Oxide Nanocrystals: New Insights into Spin Disorder and Proton Relaxivity. Journal of Physical Chemistry C, 2008, 112, 8127-8131.	1.5	233
33	Screening and Enrichment of Metal Nanoparticles with Novel Optical Properties. Journal of Physical Chemistry B, 1998, 102, 493-497.	1.2	206
34	Quantum dots and multifunctional nanoparticles: new contrast agents for tumor imaging. Nanomedicine, 2006, 1, 209-217.	1.7	201
35	Minimizing the Hydrodynamic Size of Quantum Dots with Multifunctional Multidentate Polymer Ligands. Journal of the American Chemical Society, 2008, 130, 11278-11279.	6.6	193
36	Near-Field Surface-Enhanced Raman Spectroscopy on Single Silver Nanoparticles. Analytical Chemistry, 1997, 69, 2631-2635.	3.2	181

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37	Next-generation quantum dots. Nature Biotechnology, 2009, 27, 732-733.	9.4	159
38	HFT-T, a Targeting Nanoparticle, Enhances Specific Delivery of Paclitaxel to Folate Receptor-Positive Tumors. ACS Nano, 2009, 3, 3165-3174.	7.3	156
39	Intraoperative Near-Infrared Imaging Can Identify Pulmonary Nodules. Annals of Thoracic Surgery, 2014, 98, 1223-1230.	0.7	154
40	Molecular Imaging of Pancreatic Cancer in an Animal Model Using Targeted Multifunctional Nanoparticles. Gastroenterology, 2009, 136, 1514-1525.e2.	0.6	152
41	Physical Chemistry of Nanomedicine: Understanding the Complex Behaviors of Nanoparticles in Vivo. Annual Review of Physical Chemistry, 2015, 66, 521-547.	4.8	146
42	Molecular Mapping of Tumor Heterogeneity on Clinical Tissue Specimens with Multiplexed Quantum Dots. ACS Nano, 2010, 4, 2755-2765.	7.3	143
43	Counting Single Native Biomolecules and Intact Viruses with Color-Coded Nanoparticles. Analytical Chemistry, 2006, 78, 1061-1070.	3.2	140
44	Targeted Delivery of Cisplatin to Lung Cancer Using ScFvEGFR-Heparin-Cisplatin Nanoparticles. ACS Nano, 2011, 5, 9480-9493.	7.3	139
45	Minimizing Nonspecific Cellular Binding of Quantum Dots with Hydroxyl-Derivatized Surface Coatings. Analytical Chemistry, 2008, 80, 3029-3034.	3.2	129
46	Active transcytosis and new opportunities for cancer nanomedicine. Nature Materials, 2020, 19, 478-480.	13.3	128
47	Bioconjugated Nanoparticles for Biosensing, in Vivo Imaging, and Medical Diagnostics. Analytical Chemistry, 2017, 89, 1015-1031.	3.2	120
48	Nanostructured Thin-Film Materials with Surface-Enhanced Optical Properties. Chemistry of Materials, 2001, 13, 1082-1088.	3.2	112
49	Aqueous acid-based synthesis of lead-free tin halide perovskites with near-unity photoluminescence quantum efficiency. Chemical Science, 2019, 10, 4573-4579.	3.7	109
50	Intraoperative Near-Infrared Imaging Can Distinguish Cancer from Normal Tissue but Not Inflammation. PLoS ONE, 2014, 9, e103342.	1.1	108
51	Multiplexed Detection and Characterization of Rare Tumor Cells in Hodgkinâ€™s Lymphoma with Multicolor Quantum Dots. Analytical Chemistry, 2010, 82, 6237-6243.	3.2	100
52	Development of Receptor Targeted Magnetic Iron Oxide Nanoparticles for Efficient Drug Delivery and Tumor Imaging. Journal of Biomedical Nanotechnology, 2008, 4, 439-449.	0.5	99
53	Confinement and Detection of Single Molecules in Submicrometer Channels. Analytical Chemistry, 1997, 69, 3400-3405.	3.2	91
54	Real-Time Detection of Virus Particles and Viral Protein Expression with Two-Color Nanoparticle Probes. Journal of Virology, 2005, 79, 8625-8628.	1.5	87

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55	Intraoperative molecular imaging can identify lung adenocarcinomas during pulmonary resection. Journal of Thoracic and Cardiovascular Surgery, 2015, 150, 28-35.e1.	0.4	86
56	Probing Single Molecules in Single Living Cells. Analytical Chemistry, 2000, 72, 5606-5611.	3.2	82
57	Targeted Drug Delivery and Image-Guided Therapy of Heterogeneous Ovarian Cancer Using HER2-Targeted Theranostic Nanoparticles. Theranostics, 2019, 9, 778-795.	4.6	82
58	One-Pot Synthesis, Encapsulation, and Solubilization of Size-Tuned Quantum Dots with Amphiphilic Multidentate Ligands. Journal of the American Chemical Society, 2008, 130, 12866-12867.	6.6	81
59	Machine Learning-Assisted Array-Based Biomolecular Sensing Using Surface-Functionalized Carbon Dots. ACS Sensors, 2019, 4, 2730-2737.	4.0	81
60	Identification of breast cancer margins using intraoperative nearâ€infrared imaging. Journal of Surgical Oncology, 2016, 113, 508-514.	0.8	74
61	Direct Hot-Injection Synthesis of Lead Halide Perovskite Nanocubes in Acrylic Monomers for Ultrastable and Bright Nanocrystalâ€“Polymer Composite Films. ACS Applied Materials & Interfaces, 2019, 11, 9317-9325.	4.0	67
62	Single-Bead Immunoassays Using Magnetic Microparticles and Spectral-Shifting Quantum Dots. Journal of Agricultural and Food Chemistry, 2007, 55, 3778-3782.	2.4	66
63	Comparison of Folate Receptor Targeted Optical Contrast Agents for Intraoperative Molecular Imaging. International Journal of Molecular Imaging, 2015, 2015, 1-10.	1.3	65
64	Efficient and Stable Thinâ€Film Luminescent Solar Concentrators Enabled by Nearâ€Infrared Emission Perovskite Nanocrystals. Angewandte Chemie - International Edition, 2020, 59, 7738-7742.	7.2	64
65	Near-infrared fluorescent image-guided surgery for intracranial meningioma. Journal of Neurosurgery, 2018, 128, 380-390.	0.9	62
66	Compact and Blinking-Suppressed Quantum Dots for Single-Particle Tracking in Live Cells. Journal of Physical Chemistry B, 2014, 118, 14140-14147.	1.2	61
67	Near-Infrared Intraoperative Molecular Imaging Can Locate Metastases to the Lung. Annals of Thoracic Surgery, 2017, 103, 390-398.	0.7	59
68	Mapping the spatial distribution of charge carriers in quantum-confined heterostructures. Nature Communications, 2014, 5, 4506.	5.8	57
69	Influence of Electron Acceptor and Electron Donor on the Photophysical Properties of Carbon Dots: A Comparative Investigation at the Bulkâ€State and Singleâ€Particle Level. Advanced Functional Materials, 2019, 29, 1902466.	7.8	57
70	Intraoperative fluorescence imaging in thoracic surgery. Journal of Surgical Oncology, 2018, 118, 344-355.	0.8	56
71	Emergence of two near-infrared windows for in vivo and intraoperative SERS. Current Opinion in Chemical Biology, 2018, 45, 95-103.	2.8	50
72	Optimization of Second Window Indocyanine Green for Intraoperative Near-Infrared Imaging of Thoracic Malignancy. Journal of the American College of Surgeons, 2019, 228, 188-197.	0.2	45

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73	In vitro study of a pH-sensitive multifunctional doxorubicinâ€“gold nanoparticle system: therapeutic effect and surface enhanced Raman scattering. RSC Advances, 2015, 5, 65651-65659.	1.7	43
74	Quantification of tumor fluorescence during intraoperative optical cancer imaging. Scientific Reports, 2015, 5, 16208.	1.6	42
75	Small Portable Interchangeable Imager of Fluorescence for Fluorescence Guided Surgery and Research. Technology in Cancer Research and Treatment, 2015, 14, 213-220.	0.8	42
76	Intraoperative nearâ€infrared fluorescence imaging targeting folate receptors identifies lung cancer in a largeâ€animal model. Cancer, 2017, 123, 1051-1060.	2.0	42
77	Intraoperative near-infrared fluorescence imaging and spectroscopy identifies residual tumor cells in wounds. Journal of Biomedical Optics, 2015, 20, 076002.	1.4	39
78	Intraoperative Molecular Diagnostic Imaging Can Identify Renal Cell Carcinoma. Journal of Urology, 2016, 195, 748-755.	0.2	37
79	An open label trial of folate receptor-targeted intraoperative molecular imaging to localize pulmonary squamous cell carcinomas. Oncotarget, 2018, 9, 13517-13529.	0.8	36
80	Intraoperative Spectroscopy with Ultrahigh Sensitivity for Image-Guided Surgery of Malignant Brain Tumors. Analytical Chemistry, 2016, 88, 858-867.	3.2	34
81	Intraoperative Molecular Imaging of Lung Adenocarcinoma Can Identify Residual Tumor Cells at the Surgical Margins. Molecular Imaging and Biology, 2016, 18, 209-218.	1.3	34
82	Novel surface-enhanced Raman scattering-based assays for ultra-sensitive detection of human pluripotent stem cells. Biomaterials, 2016, 105, 66-76.	5.7	28
83	Hexachromatic bioinspired camera for image-guided cancer surgery. Science Translational Medicine, 2021, 13, .	5.8	27
84	Biomimetic Surface-Enhanced Raman Scattering Nanoparticles with Improved Dispersibility, Signal Brightness, and Tumor Targeting Functions. ACS Nano, 2022, 16, 8051-8063.	7.3	26
85	A Dual-Beam Optical Microscope for Observation and Cleavage of Single DNA Molecules. Analytical Chemistry, 1998, 70, 1743-1748.	3.2	24
86	Functionalized, Long-Circulating, and Ultrasmall Gold Nanocarriers for Overcoming the Barriers of Low Nanoparticle Delivery Efficiency and Poor Tumor Penetration. Bioconjugate Chemistry, 2017, 28, 244-252.	1.8	24
87	An Integrated Widefield Imaging and Spectroscopy System for Contrast-Enhanced, Image-Guided Resection of Tumors. IEEE Transactions on Biomedical Engineering, 2015, 62, 1416-1424.	2.5	21
88	An unusual role of folate in the self-assembly of heparinâ€“folate conjugates into nanoparticles. Nanoscale, 2015, 7, 15185-15190.	2.8	21
89	Ultracompact Iron Oxide Nanoparticles with a Monolayer Coating of Succinylated Heparin: A New Class of Renal-Clearable and Nontoxic T₁ Agents for High-Field MRI. ACS Applied Materials & Interfaces, 2020, 12, 53994-54004.	4.0	20
90	Accelerated Digital Biodetection Using Magneto-plasmonic Nanoparticle-Coupled Photonic Resonator Absorption Microscopy. ACS Nano, 2022, 16, 2345-2354.	7.3	19

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91	The more exotic shapes of semiconductor nanocrystals: emerging applications in bioimaging. Current Opinion in Chemical Engineering, 2014, 4, 137-143.	3.8	18
92	The bright future: Imaging dynamic cellular events with quantum dots. Biochemist, 2010, 32, 12-17.	0.2	17
93	Biocompatible hyaluronic acid polymer-coated quantum dots for CD44+ cancer cell-targeted imaging. Journal of Nanoparticle Research, 2014, 16, 1.	0.8	15
94	Function-adaptive clustered nanoparticles reverse Streptococcus mutans dental biofilm and maintain microbiota balance. Communications Biology, 2021, 4, 846.	2.0	13
95	Rational Design of Surface-State Controlled Multicolor Cross-Linked Carbon Dots with Distinct Photoluminescence and Cellular Uptake Properties. ACS Applied Materials & Interfaces, 2021, 13, 59747-59760.	4.0	13
96	Near-infrared Intraoperative Molecular Imaging Can Identify Metastatic Lymph Nodes in Prostate Cancer. Urology, 2017, 106, 133-138.	0.5	11
97	Quantum Dot Nanocrystals for In Vivo Molecular and Cellular Imaging^{Â¶}. Photochemistry and Photobiology, 2004, 80, 377-385.	1.3	9
98	Quantitative Examination of the Active Targeting Effect: The Key Factor for Maximal Tumor Accumulation and Retention of Short-Circulated Biopolymeric Nanocarriers. Bioconjugate Chemistry, 2017, 28, 1351-1355.	1.8	8
99	Evaluation of Aminolevulinic Acid-Derived Tumor Fluorescence Yields Disparate Results in Murine and Spontaneous Large Animal Models of Lung Cancer. Scientific Reports, 2019, 9, 7629.	1.6	8
100	Efficient and Stable Thinâ€Film Luminescent Solar Concentrators Enabled by Nearâ€Infrared Emission Perovskite Nanocrystals. Angewandte Chemie, 2020, 132, 7812-7816.	1.6	6
101	Raman-Guided Bronchoscopy: Feasibility and Detection Depth Studies Using Ex Vivo Lung Tissues and SERS Nanoparticle Tags. Photonics, 2022, 9, 429.	0.9	6
102	Succinylated heparin monolayer coating vastly increases superparamagnetic iron oxide nanoparticle T₂ proton relaxivity. Nanoscale, 2019, 11, 12905-12914.	2.8	5
103	Biomedical nanotechnology for molecular imaging, diagnostics, and targeted therapy. , 2009, 2009, 4578-9.		4
104	Encapsulating maytansinoid in pH-sensitive nanocarriers: The importance of using extremely potent cytotoxic agents and fast release for nanomedicine to achieve tumor elimination. Nano Research, 2019, 12, 1959-1966.	5.8	4
105	Combination of an Integrin-Targeting NIR Tracer and an Ultrasensitive Spectroscopic Device for Intraoperative Detection of Head and Neck Tumor Margins and Metastatic Lymph Nodes. Tomography, 2016, 2, 215-222.	0.8	4
106	Nanoparticle Probes for Ultrasensitive Biological Detection and Imaging. , 0, , 71-89.		3
107	Integrating Magnetic and Optical Nanotechnology for Selective Capture and Multiplexed Analysis of Rare Tumor Cells. , 2007, , .		2
108	Remembering Dr. Richard P. Van Duyne (1945â€“2019): Gentleman, Scholar, and Surface-Enhanced Raman Scattering Pioneer. ACS Nano, 2020, 14, 26-27.	7.3	2

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109	Luminescent Quantum Dots for Biological Labeling. , 2005, , 343-352.		1
110	Bioconjugated Nanoparticles for Ultrasensitive Detection of Molecular Biomarkers and Infectious Agents. , 0, , 207-222.		1
111	Quantum Dots for Multiplexed Molecular Profiling of Cancer Cells and Tissue Specimens. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	1
112	Probing Single Molecules in Single Living Cells. Microscopy and Microanalysis, 2001, 7, 28-29.	0.2	0