Biwu Liu

List of Publications by Year
in descending order

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82 papers	6,899 citations	61984 43 h-index	58581 82 g-index
83 all docs	83 docs citations	83 times ranked	6040 citing authors

#	Article	IF	Citations
1	Molecular Imprinting on Inorganic Nanozymes for Hundred-fold Enzyme Specificity. Journal of the American Chemical Society, 2017, 139, 5412-5419.	13.7	522
2	Surface modification of nanozymes. Nano Research, 2017, 10, 1125-1148.	10.4	406
3	Hydrogen Peroxide Displacing DNA from Nanoceria: Mechanism and Detection of Glucose in Serum. Journal of the American Chemical Society, 2015, 137, 1290-1295.	13.7	370
4	Multicopper Laccase Mimicking Nanozymes with Nucleotides as Ligands. ACS Applied Materials & Interfaces, 2017, 9, 1352-1360.	8.0	319
5	Freezing Directed Construction of Bio/Nano Interfaces: Reagentless Conjugation, Denser Spherical Nucleic Acids, and Better Nanoflares. Journal of the American Chemical Society, 2017, 139, 9471-9474.	13.7	303
6	Filling in the Gaps between Nanozymes and Enzymes: Challenges and Opportunities. Bioconjugate Chemistry, 2017, 28, 2903-2909.	3.6	290
7	DNA adsorbed on graphene and graphene oxide: Fundamental interactions, desorption and applications. Current Opinion in Colloid and Interface Science, 2016, 26, 41-49.	7.4	224
8	Boosting the oxidase mimicking activity of nanoceria by fluoride capping: rivaling protein enzymes and ultrasensitive F^{â^'}detection. Nanoscale, 2016, 8, 13562-13567.	5.6	209
9	Mechanisms of DNA Sensing on Graphene Oxide. Analytical Chemistry, 2013, 85, 7987-7993.	6.5	201
10	Accelerating peroxidase mimicking nanozymes using DNA. Nanoscale, 2015, 7, 13831-13835.	5.6	186
11	Attaching DNA to Nanoceria: Regulating Oxidase Activity and Fluorescence Quenching. ACS Applied Materials & Interfaces, 2013, 5, 6820-6825.	8.0	183
12	Methods for preparing DNA-functionalized gold nanoparticles, a key reagent of bioanalytical chemistry. Analytical Methods, 2017, 9, 2633-2643.	2.7	173
13	Intracellular Detection of ATP Using an Aptamer Beacon Covalently Linked to Graphene Oxide Resisting Nonspecific Probe Displacement. Analytical Chemistry, 2014, 86, 12229-12235.	6.5	160
14	Instantaneous Attachment of an Ultrahigh Density of Nonthiolated DNA to Gold Nanoparticles and Its Applications. Langmuir, 2012, 28, 17053-17060.	3.5	157
15	Interface-Driven Hybrid Materials Based on DNA-Functionalized Gold Nanoparticles. Matter, 2019, 1, 825-847.	10.0	147
16	DNA adsorption by magnetic iron oxide nanoparticles and its application for arsenate detection. Chemical Communications, 2014, 50, 8568.	4.1	132
17	Polyâ€cytosine DNA as a Highâ€Affinity Ligand for Inorganic Nanomaterials. Angewandte Chemie - International Edition, 2017, 56, 6208-6212.	13.8	132
18	Comparison of Graphene Oxide and Reduced Graphene Oxide for DNA Adsorption and Sensing. Langmuir, 2016, 32, 10776-10783.	3.5	123

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19	Fluorescent sensors using DNA-functionalized graphene oxide. Analytical and Bioanalytical Chemistry, 2014, 406, 6885-6902.	3.7	119
20	Comprehensive Screen of Metal Oxide Nanoparticles for DNA Adsorption, Fluorescence Quenching, and Anion Discrimination. ACS Applied Materials & Interfaces, 2015, 7, 24833-24838.	8.0	116
21	Conjugation of antibodies and aptamers on nanozymes for developing biosensors. Biosensors and Bioelectronics, 2020, 168, 112537.	10.1	113
22	Iron oxide nanozyme catalyzed synthesis of fluorescent polydopamine for light-up Zn²⁺detection. Nanoscale, 2016, 8, 13620-13626.	5.6	103
23	Adsorption of DNA Oligonucleotides by Titanium Dioxide Nanoparticles. Langmuir, 2014, 30, 839-845.	3.5	94
24	Bromide as a Robust Backfiller on Gold for Precise Control of DNA Conformation and High Stability of Spherical Nucleic Acids. Journal of the American Chemical Society, 2018, 140, 4499-4502.	13.7	91
25	Janus DNA orthogonal adsorption of graphene oxide and metal oxide nanoparticles enabling stable sensing in serum. Materials Horizons, 2018, 5, 65-69.	12.2	88
26	Characterization of glucose oxidation by gold nanoparticles using nanoceria. Journal of Colloid and Interface Science, 2014, 428, 78-83.	9.4	84
27	Highly active fluorogenic oxidase-mimicking NiO nanozymes. Chemical Communications, 2018, 54, 12519-12522.	4.1	80
28	Sensors and biosensors based on metal oxide nanomaterials. TrAC - Trends in Analytical Chemistry, 2019, 121, 115690.	11.4	78
29	Polarity Control for Nonthiolated DNA Adsorption onto Gold Nanoparticles. Langmuir, 2013, 29, 6091-6098.	3.5	77
30	Rationally Designed Nucleobase and Nucleotide Coordinated Nanoparticles for Selective DNA Adsorption and Detection. Analytical Chemistry, 2013, 85, 12144-12151.	6.5	67
31	Correlation of photobleaching, oxidation and metal induced fluorescence quenching of DNA-templated silver nanoclusters. Nanoscale, 2013, 5, 2840.	5.6	65
32	DNA Adsorption by ZnO Nanoparticles near Its Solubility Limit: Implications for DNA Fluorescence Quenching and DNAzyme Activity Assays. Langmuir, 2016, 32, 5672-5680.	3.5	63
33	Parallel Polyadenine Duplex Formation at Low pH Facilitates DNA Conjugation onto Gold Nanoparticles. Langmuir, 2016, 32, 11986-11992.	3.5	63
34	DNA Triplex and Quadruplex Assembled Nanosensors for Correlating K⁺ and pH in Lysosomes. Angewandte Chemie - International Edition, 2021, 60, 5453-5458.	13.8	61
35	Molecular Imprinting for Substrate Selectivity and Enhanced Activity of Enzyme Mimics. Small, 2017, 13, 1602730.	10.0	59
36	Freezing-Driven DNA Adsorption on Gold Nanoparticles: Tolerating Extremely Low Salt Concentration but Requiring High DNA Concentration. Langmuir, 2019, 35, 6476-6482.	3.5	59

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37	Magnetic Iron Oxide Nanoparticle Seeded Growth of Nucleotide Coordinated Polymers. ACS Applied Materials & Interfaces, 2016, 8, 15615-15622.	8.0	57
38	Polyvalent Spherical Nucleic Acids for Universal Display of Functional DNA with Ultrahigh Stability. Angewandte Chemie - International Edition, 2018, 57, 9439-9442.	13.8	53
39	Adsorption of Arsenite on Gold Nanoparticles Studied with DNA Oligonucleotide Probes. Langmuir, 2019, 35, 7304-7311.	3.5	49
40	Profiling Metal Oxides with Lipids: Magnetic Liposomal Nanoparticles Displaying DNA and Proteins. Angewandte Chemie - International Edition, 2016, 55, 12063-12067.	13.8	47
41	DNA Adsorption by Indium Tin Oxide Nanoparticles. Langmuir, 2015, 31, 371-377.	3.5	45
42	Oxidation Levelâ€Dependent Zwitterionic Liposome Adsorption and Rupture by Grapheneâ€based Materials and Lightâ€Induced Content Release. Small, 2013, 9, 1030-1035.	10.0	44
43	Orthogonal Adsorption Onto Nanoâ€Graphene Oxide Using Different Intermolecular Forces for Multiplexed Delivery. Advanced Materials, 2013, 25, 4087-4092.	21.0	43
44	Graphene oxide surface blocking agents can increase the DNA biosensor sensitivity. Biotechnology Journal, 2016, 11, 780-787.	3.5	43
45	DNA Triplex and Quadruplex Assembled Nanosensors for Correlating K + and pH in Lysosomes. Angewandte Chemie, 2021, 133, 5513-5518.	2.0	43
46	Parts-per-Million of Polyethylene Glycol as a Non-Interfering Blocking Agent for Homogeneous Biosensor Development. Analytical Chemistry, 2013, 85, 10045-10050.	6.5	42
47	Freezingâ€directed Stretching and Alignment of DNA Oligonucleotides. Angewandte Chemie - International Edition, 2019, 58, 2109-2113.	13.8	42
48	Robust Hydrogels from Lanthanide Nucleotide Coordination with Evolving Nanostructures for a Highly Stable Protein Encapsulation. ACS Applied Materials & Interfaces, 2018, 10, 14321-14330.	8.0	40
49	Construction of a Mesoporous Ceria Hollow Sphere/Enzyme Nanoreactor for Enhanced Cascade Catalytic Antibacterial Therapy. ACS Applied Materials & Interfaces, 2021, 13, 40302-40314.	8.0	39
50	Etching silver nanoparticles using DNA. Materials Horizons, 2019, 6, 155-159.	12.2	35
51	Promoting DNA Adsorption by Acids and Polyvalent Cations: Beyond Charge Screening. Langmuir, 2020, 36, 11183-11195.	3.5	35
52	Heating Drives DNA to Hydrophobic Regions While Freezing Drives DNA to Hydrophilic Regions of Graphene Oxide for Highly Robust Biosensors. Journal of the American Chemical Society, 2020, 142, 14702-14709.	13.7	34
53	Mn²⁺-Assisted DNA Oligonucleotide Adsorption on Ti₂C MXene Nanosheets. Langmuir, 2019, 35, 9858-9866.	3.5	31
54	Dissecting Colloidal Stabilization Factors in Crowded Polymer Solutions by Forming Self-Assembled Monolayers on Gold Nanoparticles. Langmuir, 2013, 29, 6018-6024.	3.5	29

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55	Cation-Size-Dependent DNA Adsorption Kinetics and Packing Density on Gold Nanoparticles: An Opposite Trend. Langmuir, 2014, 30, 13228-13234.	3.5	28
56	Engineering base-excised aptamers for highly specific recognition of adenosine. Chemical Science, 2020, 11, 2735-2743.	7.4	27
57	Fluorescent detection of fluoride by CeO2 nanozyme oxidation of Amplex red. Inorganic Chemistry Communication, 2019, 106, 38-42.	3.9	26
58	From general base to general acid catalysis in a sodium-specific DNAzyme by a guanine-to-adenine mutation. Nucleic Acids Research, 2019, 47, 8154-8162.	14.5	25
59	Hg(II) Adsorption on Gold Nanoparticles Dominates DNA-Based Label-Free Colorimetric Sensing. ACS Applied Nano Materials, 2021, 4, 1377-1384.	5.0	25
60	DNA-Functionalized Nanoceria for Probing Oxidation of Phosphorus Compounds. Langmuir, 2018, 34, 15871-15877.	3.5	23
61	Adsorption of Selenite and Selenate by Metal Oxides Studied with Fluorescent DNA Probes for Analytical Application. Journal of Analysis and Testing, 2017, 1, 1.	5.1	22
62	Enhancing the peroxidase-like activity and stability of gold nanoparticles by coating a partial iron phosphate shell. Nanoscale, 2020, 12, 22467-22472.	5.6	22
63	Polyâ€cytosine DNA as a Highâ€Affinity Ligand for Inorganic Nanomaterials. Angewandte Chemie, 2017, 129, 6304-6308.	2.0	21
64	NiO Nanoparticles for Exceptionally Stable DNA Adsorption and Its Extraction from Biological Fluids. Langmuir, 2018, 34, 9314-9321.	3.5	20
65	Incorporation of Boronic Acid into Aptamer-Based Molecularly Imprinted Hydrogels for Highly Specific Recognition of Adenosine. ACS Applied Bio Materials, 2020, 3, 2568-2576.	4.6	20
66	Interfacing DNA Oligonucleotides with Calcium Phosphate and Other Metal Phosphates. Langmuir, 2018, 34, 14975-14982.	3.5	19
67	Nucleoside-based fluorescent carbon dots for discrimination of metal ions. Journal of Materials Chemistry B, 2020, 8, 3640-3646.	5.8	18
68	Polyvalent Spherical Nucleic Acids for Universal Display of Functional DNA with Ultrahigh Stability. Angewandte Chemie, 2018, 130, 9583-9586.	2.0	16
69	Freezingâ€directed Stretching and Alignment of DNA Oligonucleotides. Angewandte Chemie, 2019, 131, 2131-2135.	2.0	16
70	Understanding Carbon Nanotubeâ€Based Ionic Diodes: Design and Mechanism. Small, 2021, 17, e2100383.	10.0	15
71	Adsorption of DNA Oligonucleotides by Boronic Acid-Functionalized Hydrogel Nanoparticles. Langmuir, 2019, 35, 13727-13734.	3.5	14
72	Fluorescein-Stabilized i-Motif DNA and Its Unfolding Leading to a Stronger Adsorption Affinity. Langmuir, 2019, 35, 11932-11939.	3.5	11

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73	Interactions between gold, thiol and As(<scp>iii</scp>) for colorimetric sensing. Analyst, The, 2020, 145, 5166-5173.	3.5	11
74	Stronger Adsorption of Phosphorothioate DNA Oligonucleotides on Graphene Oxide by van der Waals Forces. Langmuir, 2020, 36, 13708-13715.	3.5	10
75	Reversible gating of ion transport through DNA-functionalized carbon nanotube membranes. RSC Advances, 2017, 7, 611-616.	3.6	9
76	Opposite salt-dependent stability of i-motif and duplex reflected in a single DNA hairpin nanomachine. Nanotechnology, 2020, 31, 195503.	2.6	8
77	Yttrium Oxide as a Strongly Adsorbing but Nonquenching Surface for DNA Oligonucleotides. Langmuir, 2020, 36, 1034-1042.	3.5	7
78	A high local DNA concentration for nucleating a DNA/Fe coordination shell on gold nanoparticles. Chemical Communications, 2020, 56, 4208-4211.	4.1	5
79	Promotion and inhibition of oxidase-like nanoceria and peroxidase-like iron oxide by arsenate and arsenite. Inorganic Chemistry Communication, 2021, 134, 108979.	3.9	5
80	Profiling Metal Oxides with Lipids: Magnetic Liposomal Nanoparticles Displaying DNA and Proteins. Angewandte Chemie, 2016, 128, 12242-12246.	2.0	3
81	A Nanozymatic Solution to Acute Lung Injury. ACS Central Science, 2022, 8, 7-9.	11.3	3
82	Molecular Detection Using Nanozymes. Nanostructure Science and Technology, 2020, , 395-424.	0.1	2