Frank X Gu

List of Publications by Year
in descending order

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115 papers	12,162 citations	57758 44 h-index	24982 109 g-index
122 all docs	122 docs citations	122 times ranked	18973 citing authors

#	Article	IF	Citations
1	Selective photocatalytic reduction of selenate over TiO2 in the presence of nitrate and sulfate in mine-impacted water. Chemosphere, 2022, 287, 131951.	8.2	7
2	Investigating the Molecular Mechanism of Proteinâ€“Polymer Binding with Direct Saturation Compensated Nuclear Magnetic Resonance. Biomacromolecules, 2022, 23, 67-76.	5.4	5
3	Theoretical framework and experimental methodology to elucidate the supersaturation dynamics of nanocrystal growth. Nanoscale Horizons, 2022, 7, 376-384.	8.0	2
4	Untangling Mucosal Drug Delivery: Engineering, Designing, and Testing Nanoparticles to Overcome the Mucus Barrier. ACS Biomaterials Science and Engineering, 2022, 8, 1396-1426.	5.2	28
5	Transport and targeted binding of Pluronic-coated nanoparticles in unsaturated porous media. Journal of Contaminant Hydrology, 2022, 249, 104046.	3.3	2
6	From prevention to diagnosis and treatment: Biomedical applications of metal nanoparticle-hydrogel composites. Acta Biomaterialia, 2021, 122, 1-25.	8.3	57
7	Heterogeneity in transmissibility and shedding SARS-CoV-2 via droplets and aerosols. ELife, 2021, 10, .	6.0	106
8	SARS-CoV-2 shedding dynamics across the respiratory tract, sex, and disease severity for adult and pediatric COVID-19. ELife, 2021, 10, .	6.0	44
9	Understanding why superspreading drives the COVID-19 pandemic but not the H1N1 pandemic. Lancet Infectious Diseases, The, 2021, 21, 1203-1204.	9.1	38
10	Influence of Pluronic coating formulation on iron oxide nanoparticle transport in natural and oilâ€impacted sandy aquifer media. Canadian Journal of Chemical Engineering, 2020, 98, 642-649.	1.7	9
11	Nanostructured and Spiky Gold Shell Growth on Magnetic Particles for SERS Applications. Nanomaterials, 2020, 10, 2136.	4.1	8
12	Light propagation within <scp>N95</scp> filtered face respirators: A simulation study for <scp>UVC</scp> decontamination. Journal of Biophotonics, 2020, 13, e202000232.	2.3	10
13	Characterizing internal cavity modulation of corn starch microcapsules. Heliyon, 2020, 6, e05294.	3.2	5
14	Enhanced photocatalytic selectivity of noble metallized TiO₂ nanoparticles for the reduction of selenate in water: tunable Se reduction product H₂Se_(g)vs. Se_(s). Environmental Science: Nano, 2020, 7, 1841-1852.	4.3	10
15	Factors affecting pluronic-coated iron oxide nanoparticle binding to petroleum hydrocarbon-impacted sediments. Chemosphere, 2020, 254, 126732.	8.2	10
16	Helium Ion Microscopy of Corn Starch. Starch/Staerke, 2020, 72, 1900267.	2.1	1
17	Can the toxicity of naphthenic acids in oil sands process-affected water be mitigated by a green photocatalytic method?. Facets, 2020, 5, 474-487.	2.4	6
18	Decontamination of N95 masks for re-use employing 7 widely available sterilization methods. PLoS ONE, 2020, 15, e0243965.	2.5	54

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19	Gold Nanoparticles for Colorimetric Detection of Pathogens. , 2019, , 108-115.		0
20	Low-Fouling Characteristics of Ultrathin Zwitterionic Cysteine SAMs. Langmuir, 2019, 35, 1756-1767.	3.5	18
21	Extracellular Vesicles from Interferon-Î³â€“primed Human Umbilical Cord Mesenchymal Stromal Cells Reduce Escherichia coliâ€“induced Acute Lung Injury in Rats. Anesthesiology, 2019, 130, 778-790.	2.5	73
22	Targeted nanoparticle binding & detection in petroleum hydrocarbon impacted porous media. Chemosphere, 2019, 215, 353-361.	8.2	16
23	Real-time monitoring of nanoscale TiO2 concentration by spectrophotometry: implications of agglomeration due to natural organic matter and multivalent ions. Environmental Technology (United Kingdom), 2019, 40, 1821-1830.	2.2	0
24	Structure-reactivity relationship of naphthenic acids in the photocatalytic degradation process. Chemosphere, 2018, 200, 180-190.	8.2	20
25	Spiky gold shells on magnetic particles for DNA biosensors. Talanta, 2018, 182, 259-266.	5.5	15
26	Magnetic flocculation for nanoparticle separation and catalyst recycling. Environmental Science: Nano, 2018, 5, 509-519.	4.3	19
27	Sensing Coated Iron-Oxide Nanoparticles with Spectral Induced Polarization (SIP): Experiments in Natural Sand Packed Flow-Through Columns. Environmental Science & Technology, 2018, 52, 14256-14265.	10.0	19
28	Petroleomic analysis of the treatment of naphthenic organics in oil sands process-affected water with buoyant photocatalysts. Water Research, 2018, 141, 297-306.	11.3	20
29	Functional Two- and Three-Dimensional Architectures of Immobilized Metal Nanoparticles. CheM, 2018, 4, 2301-2328.	11.7	14
30	Floating Photocatalysts for Passive Solar Degradation of Naphthenic Acids in Oil Sands Process-Affected Water. Water (Switzerland), 2018, 10, 202.	2.7	22
31	Bacterial Networks on Hydrophobic Micropillars. ACS Nano, 2017, 11, 675-683.	14.6	25
32	Controllable Microfluidic Production of Drug-Loaded PLGA Nanoparticles Using Partially Water-Miscible Mixed Solvent Microdroplets as a Precursor. Scientific Reports, 2017, 7, 4794.	3.3	74
33	Mechanical Contact Characteristics of PC3 Human Prostate Cancer Cells on Complex-Shaped Silicon Micropillars. Materials, 2017, 10, 892.	2.9	6
34	Discrimination of Proteins Using an Array of Surfactant-Stabilized Gold Nanoparticles. Langmuir, 2016, 32, 7621-7629.	3.5	23
35	Interactions between bacterial surface and nanoparticles govern the performance of â€œchemical noseâ€• biosensors. Biosensors and Bioelectronics, 2016, 83, 115-125.	10.1	30
36	Photocatalytic degradation kinetics of naphthenic acids in oil sands process-affected water: Multifactorial determination of significant factors. Chemosphere, 2016, 165, 10-17.	8.2	21

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37	Prolonged Ocular Retention of Mucoadhesive Nanoparticle Eye Drop Formulation Enables Treatment of Eye Diseases Using Significantly Reduced Dosage. Molecular Pharmaceutics, 2016, 13, 2897-2905.	4.6	64
38	Emerging nanomaterials for the application of selenium removal for wastewater treatment. Environmental Science: Nano, 2016, 3, 982-996.	4.3	80
39	A â€œchemical noseâ€•biosensor for detecting proteins in complex mixtures. Analyst, The, 2016, 141, 5627-5636.	3.5	14
40	Nanotechnology and Nanomaterials in Ophthalmic Drug Delivery. , 2016, , 83-109.		7
41	Towards point-of-care detection of polymicrobial infections: Rapid colorimetric response using a portable spectrophotometer. Sensing and Bio-Sensing Research, 2016, 10, 15-19.	4.2	12
42	Hollow Mesoporous Silica Nanocarriers with Multifunctional Capping Agents for In Vivo Cancer Imaging and Therapy. Small, 2016, 12, 360-370.	10.0	47
43	Solar photocatalytic degradation of naphthenic acids in oil sands process-affected water. Chemosphere, 2016, 144, 1854-1861.	8.2	44
44	Adhesion characteristics ofStaphylococcus aureusbacterial cells on funnel-shaped palladiumâ€“cobalt alloy nanostructures. Journal of Experimental Nanoscience, 2016, 11, 480-489.	2.4	2
45	Trapping polystyrene and latex nanospheres inside hollow nanostructures usingStaphylococcus aureuscells. Journal of Experimental Nanoscience, 2016, 11, 303-313.	2.4	0
46	Optimization of Polydiacetylene-Coated Superparamagnetic Magnetite Biosensor for Colorimetric Detection of Biomarkers. Journal of Nanoscience and Nanotechnology, 2015, 15, 2628-2633.	0.9	2
47	An Experimental and Theoretical Approach to Investigate the Effect of Chain Length on Aminothiol Adsorption and Assembly on Gold. Chemistry - A European Journal, 2015, 21, 14555-14561.	3.3	27
48	Tip-enhanced fluorescence with radially polarized illumination for monitoring loop-mediated isothermal amplification on Hepatitis C virus cDNA. Journal of Biomedical Optics, 2015, 20, 027005.	2.6	5
49	Colorimetric biosensing of pathogens using gold nanoparticles. Biotechnology Advances, 2015, 33, 666-680.	11.7	163
50	Vibrio cholerae Represses Polysaccharide Synthesis To Promote Motility in Mucosa. Infection and Immunity, 2015, 83, 1114-1121.	2.2	25
51	Characteristic investigation of scanning surface plasmon microscopy for nucleotide functionalized nanoarray. Optics Express, 2015, 23, 20104.	3.4	1
52	Size-Tunable Fe₃O₄ Spherical Nanoclusters Through a One-Pot Hydrothermal Synthesis. Journal of Nanoscience and Nanotechnology, 2015, 15, 5378-5383.	0.9	19
53	Controlling â€œchemical noseâ€•biosensor characteristics by modulating gold nanoparticle shape and concentration. Sensing and Bio-Sensing Research, 2015, 5, 13-18.	4.2	14
54	Phenylboronic acid modified mucoadhesive nanoparticle drug carriers facilitate weekly treatment of experimentallyinduced dry eye syndrome. Nano Research, 2015, 8, 621-635.	10.4	40

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55	Magnetically Recyclable Nanomaterials for Water Treatment. Lecture Notes in Nanoscale Science and Technology, 2014, , 225-259.	0.8	2
56	In vitrouptake and release of natamycin Dex-b-PLA nanoparticles from model contact lens materials. Journal of Biomaterials Science, Polymer Edition, 2014, 25, 18-31.	3.5	32
57	Effect of SAM chain length and binding functions on protein adsorption: Î²-Lactoglobulin and apo-transferrin on gold. Colloids and Surfaces B: Biointerfaces, 2014, 116, 489-496.	5.0	29
58	Responses of Staphylococcus aureus bacterial cells to nanocrystalline nickel nanostructures. Biomaterials, 2014, 35, 4249-4254.	11.4	26
59	Programmable Redox State of the Nickel Ion Chain in DNA. Nano Letters, 2014, 14, 1026-1031.	9.1	17
60	Branching and size of CTAB-coated gold nanostars control the colorimetric detection of bacteria. RSC Advances, 2014, 4, 10660-10668.	3.6	48
61	Recyclable Graphene Oxide-Supported Titanium Dioxide Photocatalysts with Tunable Properties. ACS Applied Materials & Interfaces, 2014, 6, 4658-4668.	8.0	77
62	â€œChemical noseâ€•for the visual identification of emerging ocular pathogens using gold nanostars. Biosensors and Bioelectronics, 2014, 61, 386-390.	10.1	40
63	Nonfouling Property of Zwitterionic Cysteine Surface. Langmuir, 2014, 30, 6497-6507.	3.5	50
64	Magnetic Force Microscopy Characterization of Superparamagnetic Iron Oxide Nanoparticles (SPIONs). Nano Biomedicine and Engineering, 2014, 6, .	0.9	16
65	Hydrogenation processing of TiO₂ nanoparticles. Canadian Journal of Chemical Engineering, 2013, 91, 799-807.	1.7	33
66	Synthesis of Magnetic Rattle-Type Nanostructures for Use in Water Treatment. ACS Applied Materials & Interfaces, 2013, 5, 2540-2548.	8.0	47
67	Controlled root targeted delivery of fertilizer using an ionically crosslinked carboxymethyl cellulose hydrogel matrix. SpringerPlus, 2013, 2, 318.	1.2	91
68	Development of a colorimetric, superparamagnetic biosensor for the capture and detection of biomolecules. Biosensors and Bioelectronics, 2013, 42, 12-16.	10.1	15
69	Photocatalytic Activity of Hydrogenated TiO₂. ACS Applied Materials & Interfaces, 2013, 5, 1892-1895.	8.0	257
70	Magnetically Separable Water Treatment Technologies and their Role in Future Advanced Water Treatment: A Patent Review. Clean - Soil, Air, Water, 2013, 41, 1152-1156.	1.1	43
71	Improving biocompatibility by surface modification techniques on implantable bioelectronics. Biosensors and Bioelectronics, 2013, 47, 451-460.	10.1	58
72	Human Serum Lipoproteins Influence Protein Deposition Patterns on Nanoparticle Surfaces. ACS Applied Materials & Interfaces, 2013, 5, 489-493.	8.0	5

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73	In vitroandex vivoevaluation of silica-coated super paramagnetic iron oxide nanoparticles (SPION) as biomedical photoacoustic contrast agent. Proceedings of SPIE, 2013, , .	0.8	1
74	Mesoporous Magnetically Recyclable Photocatalysts for Water Treatment. Journal of Nanoscience and Nanotechnology, 2013, 13, 3127-3132.	0.9	14
75	Superparamagnetic iron oxide nanoparticles (SPIONs): synthesis and surface modification techniques for use with MRI and other biomedical applications. Current Pharmaceutical Design, 2013, 19, 493-509.	1.9	22
76	Silica-coated super paramagnetic iron oxide nanoparticles (SPION) as biocompatible contrast agent in biomedical photoacoustics. Biomedical Optics Express, 2012, 3, 2500.	2.9	107
77	LIGHT-INDUCED AGGREGATION OF NANOPARTICLES FUNCTIONALIZED WITH 7-AMINO-4-METHYLCOUMARIN. Nano LIFE, 2012, 02, 1241007.	0.9	1
78	Mesoporous Hollow Sphere Titanium Dioxide Photocatalysts through Hydrothermal Silica Etching. ACS Applied Materials & Interfaces, 2012, 4, 6062-6070.	8.0	67
79	Development of Mucoadhesive Drug Delivery System Using Phenylboronic Acid Functionalized Poly(<scp>D</scp>,<scp>L</scp>â€lactide)â€bâ€Dextran Nanoparticles. Macromolecular Bioscience, 2012, 12, 1622-1626.	4.1	26
80	Study of Tissue Phantoms, Tissues, and Contrast Agent with the Biophotoacoustic Radar and Comparison to Ultrasound Imaging for Deep Subsurface Imaging. International Journal of Thermophysics, 2012, 33, 1808-1813.	2.1	1
81	Synthesis of curdlan-graft-poly(ethylene glycol) and formulation of doxorubicin-loaded coreâ€“shell nanoparticles. Journal of Bioactive and Compatible Polymers, 2012, 27, 3-17.	2.1	26
82	Materials for Sustained and Controlled Release of Nutrients and Molecules To Support Plant Growth. Journal of Agricultural and Food Chemistry, 2012, 60, 870-876.	5.2	140
83	Surface Plasmon Resonance Biosensors Incorporating Gold Nanoparticles. Macromolecular Bioscience, 2012, 12, 724-739.	4.1	112
84	Nanomaterials for Ocular Drug Delivery. Macromolecular Bioscience, 2012, 12, 608-620.	4.1	153
85	Multi-phase ionotropic liquid crystalline gels with controlled architecture by self-assembly of biopolymers. Carbohydrate Polymers, 2012, 87, 1881-1885.	10.2	4
86	Microwave-enhanced reductive amination via Schiff's base formation for block copolymer synthesis. Carbohydrate Polymers, 2012, 87, 2740-2744.	10.2	10
87	Iron oxide nanoparticles for targeted cancer imaging and diagnostics. Nanomedicine: Nanotechnology, Biology, and Medicine, 2012, 8, 275-290.	3.3	275
88	Size-tunable nanoparticles composed of dextran-b-poly(D,L-lactide) for drug delivery applications. Nano Research, 2012, 5, 49-61.	10.4	64
89	Pharmacological, Structural, and Drug Delivery Properties and Applications of 1,3-Î²-Glucans. Journal of Agricultural and Food Chemistry, 2011, 59, 6813-6828.	5.2	112
90	Surface Functionalization of Silica Nanoparticles with Cysteine: A Low-Fouling Zwitterionic Surface. Langmuir, 2011, 27, 10507-10513.	3.5	112

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91	Early diagnosis of sepsis using serum biomarkers. Expert Review of Molecular Diagnostics, 2011, 11, 487-496.	3.1	88
92	Emerging nanomaterials for targeting subcellular organelles. Nano Today, 2011, 6, 478-492.	11.9	129
93	CH50: A Revisited Hemolytic Complement Consumption Assay for Evaluation of Nanoparticles and Blood Plasma Protein Interaction. Current Drug Delivery, 2011, 8, 290-298.	1.6	30
94	ChemoRad nanoparticles: a novel multifunctional nanoparticle platform for targeted delivery of concurrent chemoradiation. Nanomedicine, 2010, 5, 361-368.	3.3	95
95	Nanoparticles for Cancer Diagnosis and Therapy. Nanostructure Science and Technology, 2009, , 209-235.	0.1	5
96	Formulation/Preparation of Functionalized Nanoparticles for In Vivo Targeted Drug Delivery. Methods in Molecular Biology, 2009, 544, 589-598.	0.9	48
97	Superparamagnetic Iron Oxide Nanoparticleâ€“Aptamer Bioconjugates for Combined Prostate Cancer Imaging and Therapy. ChemMedChem, 2008, 3, 1311-1315.	3.2	297
98	Biofunctionalized targeted nanoparticles for therapeutic applications. Expert Opinion on Biological Therapy, 2008, 8, 1063-1070.	3.1	225
99	Nanoparticles in Medicine: Therapeutic Applications and Developments. Clinical Pharmacology and Therapeutics, 2008, 83, 761-769.	4.7	2,156
100	Microfluidic Platform for Controlled Synthesis of Polymeric Nanoparticles. Nano Letters, 2008, 8, 2906-2912.	9.1	728
101	Self-Assembled Lipidâ˜Polymer Hybrid Nanoparticles: A Robust Drug Delivery Platform. ACS Nano, 2008, 2, 1696-1702.	14.6	851
102	Targeted delivery of cisplatin to prostate cancer cells by aptamer functionalized Pt(IV) prodrug-PLGAâ€“PEG nanoparticles. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17356-17361.	7.1	904
103	Microfluidic Synthesis of Polymeric Nanoparticles. , 2008, , .		3
104	Precise engineering of targeted nanoparticles by using self-assembled biointegrated block copolymers. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 2586-2591.	7.1	649
105	Maintenance of vascular endothelial growth factor and potentially other therapeutic proteins bioactivity during a photo-initiated free radical cross-linking reaction forming biodegradable elastomers. European Journal of Pharmaceutics and Biopharmaceutics, 2007, 66, 21-27.	4.3	29
106	Co-Delivery of Hydrophobic and Hydrophilic Drugs from Nanoparticleâ€“Aptamer Bioconjugates. ChemMedChem, 2007, 2, 1268-1271.	3.2	245
107	Tetanus toxin C fragment-conjugated nanoparticles for targeted drug delivery to neurons. Biomaterials, 2007, 28, 5176-5184.	11.4	89
108	Targeted nanoparticles for cancer therapy. Nano Today, 2007, 2, 14-21.	11.9	431

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109	Sustained release of bioactive therapeutic proteins from a biodegradable elastomeric device. Journal of Controlled Release, 2007, 117, 80-89.	9.9	55
110	Formulation of functionalized PLGAâ€“PEG nanoparticles for in vivo targeted drug delivery. Biomaterials, 2007, 28, 869-876.	11.4	1,151
111	Osmotic-Driven Release Kinetics of Bioactive Therapeutic Proteins from a Biodegradable Elastomer are Linear, Constant, Similar, and Adjustable. Pharmaceutical Research, 2006, 23, 782-789.	3.5	24
112	Sustained interferon-Î³ delivery from a photocrosslinked biodegradable elastomer. Journal of Controlled Release, 2005, 102, 607-617.	9.9	57
113	Sustained delivery of vascular endothelial growth factor with alginate beads. Journal of Controlled Release, 2004, 96, 463-472.	9.9	223
114	Synthesis and Characterization of A Photo-Cross-Linked Biodegradable Elastomer. Biomacromolecules, 2004, 5, 2479-2486.	5.4	119
115	Scanning Surface Plasmon Microscope for Sensing Lipid Array and Au Film Defect. Applied Mechanics and Materials, 0, 870, 21-26.	0.2	0