Benjamin Gilbert

List of Publications by Year
in descending order

64 papers	6,788 citations	126907 33 h-index	128289 60 g-index

65 all docs	65 docs citations	65 times ranked	10540 citing authors

#	Article	IF	Citations
1	Comparison of the Mechanism of Toxicity of Zinc Oxide and Cerium Oxide Nanoparticles Based on Dissolution and Oxidative Stress Properties. ACS Nano, 2008, 2, 2121-2134.	14.6	2,145
2	Formation of Sphalerite (ZnS) Deposits in Natural Biofilms of Sulfate-Reducing Bacteria. , 2000, 290, 1744-1747.		554
3	Use of a Rapid Cytotoxicity Screening Approach To Engineer a Safer Zinc Oxide Nanoparticle through Iron Doping. ACS Nano, 2010, 4, 15-29.	14.6	464
4	Water-driven structure transformation in nanoparticles at room temperature. Nature, 2003, 424, 1025-1029.	27.8	427
5	Nanoparticles: Strained and Stiff. Science, 2004, 305, 651-654.	12.6	420
6	Transformation mechanism of amorphous calcium carbonate into calcite in the sea urchin larval spicule. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17362-17366.	7.1	380
7	Electron Small Polarons and Their Mobility in Iron (Oxyhydr)oxide Nanoparticles. Science, 2012, 337, 1200-1203.	12.6	166
8	The effects of nanoparticle aggregation processes on aggregate structure and metal uptake. Journal of Colloid and Interface Science, 2009, 339, 285-295.	9.4	157
9	Complexation and Redox Buffering of Iron(II) by Dissolved Organic Matter. Environmental Science & Technology, 2017, 51, 11096-11104.	10.0	157
10	The Fate of ZnO Nanoparticles Administered to Human Bronchial Epithelial Cells. ACS Nano, 2012, 6, 4921-4930.	14.6	146
11	Stable cluster formation in aqueous suspensions of iron oxyhydroxide nanoparticles. Journal of Colloid and Interface Science, 2007, 313, 152-159.	9.4	123
12	Silver Nanowire Exposure Results in Internalization and Toxicity to Daphnia magna. ACS Nano, 2013, 7, 10681-10694.	14.6	117
13	Biomineralization: Integrating mechanism and evolutionary history. Science Advances, 2022, 8, eabl9653.	10.3	86
14	Rate and mechanism of the photoreduction of birnessite (MnO ₂) nanosheets. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4600-4605.	7.1	82
15	Surface Chemistry Controls Crystallinity of ZnS Nanoparticles. Nano Letters, 2006, 6, 605-610.	9.1	80
16	Early Stage Formation of Iron Oxyhydroxides during Neutralization of Simulated Acid Mine Drainage Solutions. Environmental Science & Technology, 2012, 46, 8140-8147.	10.0	74
17	Reversible, Surface-Controlled Structure Transformation in Nanoparticles Induced by an Aggregation State. Physical Review Letters, 2004, 92, 155501.	7.8	69
18	Influence of Size on Reductive Dissolution of Six-Line Ferrihydrite. Journal of Physical Chemistry C, 2008, 112, 12127-12133.	3.1	64

#	Article	IF	Citations
19	Prediction of the effects of size and morphology on the structure of water around hematite nanoparticles. Geochimica Et Cosmochimica Acta, 2009, 73, 4023-4033.	3.9	64
20	Surface Enhanced Raman Spectroscopy of Organic Molecules on Magnetite (Fe₃O₄) Nanoparticles. Journal of Physical Chemistry Letters, 2015, 6, 970-974.	4.6	62
21	Mechanism of Ferric Oxalate Photolysis. ACS Earth and Space Chemistry, 2017, 1, 270-276.	2.7	59
22	Soft X-ray Spectroscopy Study of the Electronic Structure of Oxidized and Partially Oxidized Magnetite Nanoparticles. Journal of Physical Chemistry C, 2010, 114, 21994-22001.	3.1	57
23	Diffusive transport and reaction in clay rocks: A storage (nuclear waste, CO2, H2), energy (shale gas) and water quality issue. Advances in Water Resources, 2017, 106, 39-59.	3.8	56
24	Ion exchange selectivity in clay is controlled by nanoscale chemicalâ€“mechanical coupling. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 22052-22057.	7.1	54
25	Impacts of Ionic Strength on Three-Dimensional Nanoparticle Aggregate Structure and Consequences for Environmental Transport and Deposition. Environmental Science & Technology, 2014, 48, 13703-13710.	10.0	50
26	Phase Transformation and Particle-Mediated Growth in the Formation of Hematite from 2-Line Ferrihydrite. Crystal Growth and Design, 2016, 16, 922-932.	3.0	48
27	Kinetically controlled formation of a novel nanoparticulate ZnS with mixed cubic and hexagonal stacking. Journal of Materials Chemistry, 2006, 16, 249-254.	6.7	44
28	A disordered nanoparticle model for 6-line ferrihydrite. American Mineralogist, 2013, 98, 1465-1476.	1.9	43
29	Analysis and simulation of the structure of nanoparticles that undergo a surface-driven structural transformation. Journal of Chemical Physics, 2004, 120, 11785-11795.	3.0	40
30	Short- and Long-Range Attractive Forces That Influence the Structure of Montmorillonite Osmotic Hydrates. Langmuir, 2016, 32, 12039-12046.	3.5	38
31	Short versus long silver nanowires: a comparison of in vivo pulmonary effects post instillation. Particle and Fibre Toxicology, 2014, 11, 52.	6.2	37
32	Supercritical CO ₂ uptake by nonswelling phyllosilicates. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 873-878.	7.1	37
33	Evolution of ZnS Nanostructure Morphology under Interfacial Free-Energy Control. Chemistry of Materials, 2008, 20, 2438-2443.	6.7	34
34	Determination of the Three-Dimensional Structure of Ferrihydrite Nanoparticle Aggregates. Langmuir, 2014, 30, 9931-9940.	3.5	34
35	Observation of Transient Iron(II) Formation in Dye-Sensitized Iron Oxide Nanoparticles by Time-Resolved X-ray Spectroscopy. Journal of Physical Chemistry Letters, 2010, 1, 1372-1376.	4.6	31
36	Temperature-dependence of the dielectric relaxation of water using non-polarizable water models. Physical Chemistry Chemical Physics, 2020, 22, 1011-1018.	2.8	29

#	Article	IF	Citations
37	Formation and Restacking of Disordered Smectite Osmotic Hydrates. Clays and Clay Minerals, 2015, 63, 432-442.	1.3	26
38	Crumpling of silver nanowires by endolysosomes strongly reduces toxicity. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14893-14898.	7.1	26
39	Floquet Prethermalization with Lifetime Exceeding 90Âs in a Bulk Hyperpolarized Solid. Physical Review Letters, 2021, 127, 170603.	7.8	25
40	Electron Mobility and Trapping in Ferrihydrite Nanoparticles. ACS Earth and Space Chemistry, 2017, 1, 216-226.	2.7	21
41	Kinetics of Water Adsorption-Driven Structural Transformation of ZnS Nanoparticles. Journal of Physical Chemistry C, 2008, 112, 4791-4796.	3.1	20
42	Ultrafast electron and energy transfer in dye-sensitized iron oxide and oxyhydroxide nanoparticles. Physical Chemistry Chemical Physics, 2013, 15, 17303.	2.8	16
43	Effects of Formation Conditions on the Physicochemical Properties, Aggregation, and Phase Transformation of Iron Oxide Nanoparticles. Langmuir, 2013, 29, 1069-1076.	3.5	12
44	In Vitro Dermal Safety Assessment of Silver Nanowires after Acute Exposure: Tissue vs. Cell Models. Nanomaterials, 2018, 8, 232.	4.1	12
45	Coupled redox transformations of catechol and cerium at the surface of a cerium(III) phosphate mineral. Geochimica Et Cosmochimica Acta, 2008, 72, 2454-2464.	3.9	10
46	Ion complexation waves emerge at the curved interfaces of layered minerals. Nature Communications, 2022, 13, .	12.8	10
47	Soft x-ray spectroscopy of high pressure liquid. Review of Scientific Instruments, 2018, 89, 013114.	1.3	9
48	Diffusivity of Carbon Dioxide in Aqueous Solutions under Geologic Carbon Sequestration Conditions. Journal of Physical Chemistry B, 2018, 122, 4566-4572.	2.6	9
49	Diverse Microorganisms in Sediment and Groundwater Are Implicated in Extracellular Redox Processes Based on Genomic Analysis of Bioanode Communities. Frontiers in Microbiology, 2020, 11, 1694.	3.5	9
50	Phase Transition and Liquid-like Superionic Conduction in Ag₂S. Journal of Physical Chemistry C, 2020, 124, 10150-10158.	3.1	9
51	Layer size polydispersity in hydrated montmorillonite creates multiscale porosity networks. Applied Clay Science, 2020, 190, 105548.	5.2	9
52	Long-Range Interactions Restrict Water Transport in Pyrophyllite Interlayers. Scientific Reports, 2016, 6, 25278.	3.3	8
53	Long-Term ¹³C Uptake by ¹²C-Enriched Calcite. ACS Earth and Space Chemistry, 2021, 5, 998-1005.	2.7	7
54	Lateral water structure connects metal oxide nanoparticle faces. Journal of Materials Research, 2019, 34, 456-464.	2.6	4

#	Article	IF	Citations
55	An electrochemical method to rapidly assess the environmental risk of silver release from nanowire transparent conductive films. NanoImpact, 2020, 18, 100217.	4.5	4
56	Atomic Structure, Defects, and Stacking of Clay Particles by Low-Dose, High Resolution (Cryo)-TEM. Microscopy and Microanalysis, 2018, 24, 1958-1959.	0.4	3
57	The hard x-ray nanotomography microscope at the advanced light source. Review of Scientific Instruments, 2022, 93, 023704.	1.3	3
58	Atomic Perspective on the Serpentineâ€“Chlorite Solid-State Transformation. Chemistry of Materials, 2021, 33, 6338-6345.	6.7	2
59	Direct Observations of Silver Nanowire-Induced Frustrated Phagocytosis among NR8383 Lung Alveolar Macrophages. Journal of Physical Chemistry B, 2020, 124, 11584-11592.	2.6	2
60	Thin Water Film Formation on Metal Oxide Crystal Surfaces. Langmuir, 2012, 28, 14308-14312.	3.5	1
61	Pathways for the Photoreduction of Fumarate on ZnS. ACS Earth and Space Chemistry, 2019, 3, 2250-2258.	2.7	1
62	Polytypism in semi-disordered lizardite and amesite by low-dose HAADF-STEM. American Mineralogist, 2022, 107, 221-232.	1.9	1
63	WAXS and PDF-Based Analyses of Chromium Doping in Nanocrystalline Titania (Anatase and Brookite). Materials Research Society Symposia Proceedings, 2006, 915, 1.	0.1	0
64	The moirÃ© the merrier. Nature Materials, 2021, 20, 1598-1600.	27.5	0