Kimberly A Gray

List of Publications by Year
in descending order

116 papers	9,863 citations	53789 45 h-index	34984 98 g-index
118 all docs	118 docs citations	118 times ranked	12063 citing authors

#	Article	IF	Citations
1	Explaining the Enhanced Photocatalytic Activity of Degussa P25 Mixed-Phase TiO2Using EPR. Journal of Physical Chemistry B, 2003, 107, 4545-4549.	2.6	1,837
2	Photoreactive TiO₂/Carbon Nanotube Composites: Synthesis and Reactivity. Environmental Science & Technology, 2008, 42, 4952-4957.	10.0	535
3	Minimizing Graphene Defects Enhances Titania Nanocomposite-Based Photocatalytic Reduction of CO₂ for Improved Solar Fuel Production. Nano Letters, 2011, 11, 2865-2870.	9.1	529
4	Role of Water and Carbonates in Photocatalytic Transformation of CO₂ to CH₄ on Titania. Journal of the American Chemical Society, 2011, 133, 3964-3971.	13.7	416
5	Recombination Pathways in the Degussa P25 Formulation of TiO2:Â Surface versus Lattice Mechanisms. Journal of Physical Chemistry B, 2005, 109, 977-980.	2.6	371
6	Role of Surface/Interfacial Cu²⁺ Sites in the Photocatalytic Activity of Coupled CuOâˆ'TiO₂ Nanocomposites. Journal of Physical Chemistry C, 2008, 112, 19040-19044.	3.1	344
7	The solidâ€“solid interface: Explaining the high and unique photocatalytic reactivity of TiO2-based nanocomposite materials. Chemical Physics, 2007, 339, 173-187.	1.9	279
8	A comparison of the degradation of 4-nitrophenol via direct and sensitized photocatalysis in TiO2 slurries. Water Research, 1996, 30, 1169-1183.	11.3	240
9	Factors affecting denitrification rates in experimental wetlands: Field and laboratory studies. Ecological Engineering, 2006, 26, 167-181.	3.6	198
10	Lead levels of edibles grown in contaminated residential soils: a field survey. Science of the Total Environment, 2004, 320, 245-257.	8.0	186
11	Effect of Dimensionality on the Photocatalytic Behavior of Carbonâ€“Titania Nanosheet Composites: Charge Transfer at Nanomaterial Interfaces. Journal of Physical Chemistry Letters, 2012, 3, 1760-1765.	4.6	174
12	The Important Role of Tetrahedral Ti⁴⁺ Sites in the Phase Transformation and Photocatalytic Activity of TiO₂ Nanocomposites. Journal of the American Chemical Society, 2008, 130, 5402-5403.	13.7	166
13	Photocatalytic Degradation of 4-Chlorophenol: The Effects of Varying TiO2Concentration and Light Wavelength. Journal of Catalysis, 1997, 167, 25-32.	6.2	162
14	An in situ diffuse reflectance FTIR investigation of photocatalytic degradation of 4-chlorophenol on a TiO2 powder surface. Chemical Physics Letters, 1993, 205, 55-61.	2.6	154
15	The Effects of Pt Doping on the Structure and Visible Light Photoactivity of Titania Nanotubes. Journal of Physical Chemistry C, 2010, 114, 21262-21269.	3.1	141
16	Combined Toxicity of Nano-ZnO and Nano-TiO₂: From Single- to Multinanomaterial Systems. Environmental Science & Technology, 2015, 49, 8113-8123.	10.0	139
17	Effects of Material Morphology on the Phototoxicity of Nano-TiO₂ to Bacteria. Environmental Science & Technology, 2013, 47, 12486-12495.	10.0	138
18	Coupling Titania Nanotubes and Carbon Nanotubes To Create Photocatalytic Nanocomposites. ACS Catalysis, 2012, 2, 223-229.	11.2	135

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19	A comparison of mixed phase titania photocatalysts prepared by physical and chemical methods: The importance of the solidâ€“solid interface. Journal of Molecular Catalysis A, 2007, 275, 30-35.	4.8	128
20	Role of Reduction in the Photocatalytic Degradation of TNT. Environmental Science & Technology, 1996, 30, 2547-2555.	10.0	127
21	Photocatalytic transformation and mineralization of 2,4,6-trinitrotoluene (TNT) in TiO2 slurries. Water Research, 1995, 29, 2651-2662.	11.3	122
22	Photocatalytic Transformation of 2,4,5-Trichlorophenol on TiO2under Sub-Band-Gap Illumination. Langmuir, 2003, 19, 1402-1409.	3.5	118
23	Photocatalytic degradation of methyl-tert-butyl ether in TiO2 slurries: A proposed reaction scheme. Water Research, 1995, 29, 1243-1248.	11.3	116
24	Photocatalytic Degradation of Organic Contaminants: Halophenols and Related Model Compounds. Heterogeneous Chemistry Reviews, 1996, 3, 77-104.	2.1	115
25	Effect of Calcination Temperature on the Photocatalytic Reduction and Oxidation Processes of Hydrothermally Synthesized Titania Nanotubes. Journal of Physical Chemistry C, 2010, 114, 12994-13002.	3.1	114
26	Preparation of Mixed-Phase Titanium Dioxide Nanocomposites via Solvothermal Processing. Chemistry of Materials, 2007, 19, 1143-1146.	6.7	109
27	2. Comparison of the disinfection by-product formation potentials between a wastewater effluent and surface waters. Water Research, 2005, 39, 1025-1036.	11.3	104
28	Cytotoxicity of commercial nano-TiO2 to Escherichia coli assessed by high-throughput screening: Effects of environmental factors. Water Research, 2013, 47, 2352-2362.	11.3	104
29	Effect of crystal phase composition on the reductive and oxidative abilities of TiO2 nanotubes under UV and visible light. Applied Catalysis B: Environmental, 2010, 97, 354-360.	20.2	100
30	The influence of solution matrix on the photocatalytic degradation of TNT in TiO2 slurries. Water Research, 1997, 31, 1439-1447.	11.3	94
31	Fabricating highly active mixed phase TiO2 photocatalysts by reactive DC magnetron sputter deposition. Thin Solid Films, 2006, 515, 1176-1181.	1.8	90
32	Role of the Surface Lewis Acid and Base Sites in the Adsorption of CO₂ on Titania Nanotubes and Platinized Titania Nanotubes: An in Situ FT-IR Study. Journal of Physical Chemistry C, 2013, 117, 12661-12678.	3.1	88
33	Narrow-Band Irradiation of a Homologous Series of Chlorophenols on TiO2:â€‰ Charge-Transfer Complex Formation and Reactivity. Langmuir, 2004, 20, 5911-5917.	3.5	81
34	Photoreduction of CO2 by TiO2 nanocomposites synthesized through reactive direct current magnetron sputter deposition. Thin Solid Films, 2009, 517, 5641-5645.	1.8	80
35	Removal of algal-derived organic material by preozonation and coagulation: Monitoring changes in organic quality by pyrolysis-GC-MS. Water Research, 1996, 30, 2621-2632.	11.3	78
36	Chemical Interactions between Nano-ZnO and Nano-TiO₂ in a Natural Aqueous Medium. Environmental Science & Technology, 2014, 48, 7924-7932.	10.0	76

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37	Bacterial attachment on reactive ceramic ultrafiltration membranes. Journal of Membrane Science, 2008, 320, 101-107.	8.2	73
38	Photoinduced Reactions of Surface-Bound Species on Titania Nanotubes and Platinized Titania Nanotubes: An in Situ FTIR Study. Journal of Physical Chemistry C, 2013, 117, 20643-20655.	3.1	71
39	Effect of Reactor Materials on the Properties of Titanium Oxide Nanotubes. ACS Catalysis, 2012, 2, 45-49.	11.2	62
40	Radiolytic Degradation of 2,3,7,8-TCDD in Artificially Contaminated Soils. Environmental Science & Technology, 1994, 28, 2249-2258.	10.0	61
41	Direct Evidence of Chelated Geometry of Catechol on TiO₂ by a Combined Solid-State NMR and DFT Study. Journal of Physical Chemistry C, 2016, 120, 23625-23630.	3.1	55
42	Versatile and High-Throughput Polyelectrolyte Complex Membranes via Phase Inversion. ACS Applied Materials & Interfaces, 2019, 11, 16018-16026.	8.0	52
43	Photoinitiated Reactions of 2,4,6 TCP on Degussa P25 Formulation TiO2:Â Wavelength-Sensitive Decomposition. Journal of Physical Chemistry B, 2004, 108, 16483-16487.	2.6	50
44	Radiation Induced Catalytic Dechlorination of Hexachlorobenzene on Oxide Surfaces. Journal of Physical Chemistry B, 2001, 105, 4715-4720.	2.6	46
45	Radiation-Induced Catalysis on Oxide Surfaces:â€‰ Degradation of Hexachlorobenzene on Î³-Irradiated Alumina Nanoparticles. Journal of Physical Chemistry B, 1999, 103, 2142-2150.	2.6	45
46	The effect of residential location on vehicle miles of travel, energy consumption and greenhouse gas emissions: Chicago case study. Transportation Research, Part D: Transport and Environment, 2011, 16, 1-9.	6.8	44
47	Controlling biofilm growth using reactive ceramic ultrafiltration membranes. Journal of Membrane Science, 2009, 342, 263-268.	8.2	43
48	Growth of rutile TiO₂ nanorods on anatase TiO₂ thin films on Si-based substrates. Journal of Materials Research, 2011, 26, 1646-1652.	2.6	43
49	Coupled photocatalytic-biodegradation of 2,4,5-trichlorophenol: Effects of photolytic and photocatalytic effluent composition on bioreactor process performance, community diversity, and resistance and resilience to perturbation. Water Research, 2014, 50, 59-69.	11.3	42
50	Biophysicochemical process coupling controls nitrogen use by benthic biofilms. Limnology and Oceanography, 2007, 52, 1665-1671.	3.1	41
51	Influence of Algal Community Structure on Denitrification Rates in Periphyton Cultivated on Artificial Substrata. Microbial Ecology, 2008, 56, 140-152.	2.8	41
52	Synergistic Bacterial Stress Results from Exposure to Nano-Ag and Nano-TiO₂ Mixtures under Light in Environmental Media. Environmental Science & Technology, 2018, 52, 3185-3194.	10.0	40
53	Effects of overlying velocity on periphyton structure and denitrification. Journal of Geophysical Research, 2007, 112, .	3.3	38
54	The darkening of zinc yellow: XANES speciation of chromium in artist's paints after light and chemical exposures. Journal of Analytical Atomic Spectrometry, 2011, 26, 1090.	3.0	38

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55	Algal Exudates and Stream Organic Matter Influence the Structure and Function of Denitrifying Bacterial Communities. Microbial Ecology, 2012, 64, 881-892.	2.8	37
56	Attenuation of Microbial Stress Due to Nano-Ag and Nano-TiO₂ Interactions under Dark Conditions. Environmental Science & Technology, 2016, 50, 11302-11310.	10.0	35
57	Visible light photocatalytic properties of anion-doped TiO2 materials prepared from a molecular titanium precursor. Chemical Physics Letters, 2008, 451, 75-79.	2.6	34
58	Effects of anthropogenic inputs on the organic quality of urbanized streams. Water Research, 2012, 46, 2515-2524.	11.3	34
59	Acute Effects of TiO2 Nanomaterials on the Viability and Taxonomic Composition of Aquatic Bacterial Communities Assessed via High-Throughput Screening and Next Generation Sequencing. PLoS ONE, 2014, 9, e106280.	2.5	34
60	Part I. Identifying anthropogenic markers in surface waters influenced by treated effluents: a tool in potable water reuse. Water Research, 2005, 39, 1154-1164.	11.3	33
61	Spectroscopic Characterization of TiO₂ Polymorphs in Wastewater Treatment and Sediment Samples. Environmental Science and Technology Letters, 2015, 2, 12-18.	8.7	33
62	Evaluation of landscape coverings to reduce soil lead hazards in urban residential yards: The Safer Yards Project. Environmental Research, 2004, 96, 127-138.	7.5	32
63	Role of surface reconstruction on Cu/TiO2 nanotubes for CO2 conversion. Applied Catalysis B: Environmental, 2019, 255, 117754.	20.2	32
64	Common freshwater bacteria vary in their responses to shortâ€term exposure to nanoâ€TiO₂. Environmental Toxicology and Chemistry, 2014, 33, 317-327.	4.3	31
65	Local Interfacial Structure Influences Charge Localization in Titania Composites: Beyond the Band Alignment Paradigm. Journal of Physical Chemistry C, 2016, 120, 1808-1815.	3.1	31
66	Forecasting the effects of global change scenarios on bioaccumulation patterns in great lakes species. Global Change Biology, 2011, 17, 720-733.	9.5	30
67	CO₂ Preactivation in Photoinduced Reduction via Surface Functionalization of TiO₂ Nanoparticles. Journal of Physical Chemistry Letters, 2013, 4, 475-479.	4.6	30
68	Quantifying accessible sites and reactivity on titaniaâ€"silica (photo)catalysts: Refining TOF calculations. Journal of Catalysis, 2014, 309, 156-165.	6.2	30
69	TiO2-based transparent coatings create self-cleaning surfaces. Chemosphere, 2018, 208, 899-906.	8.2	27
70	Counting Active Sites on Titanium Oxideâ€"Silica Catalysts for Hydrogen Peroxide Activation through Inâ€…Situ Poisoning with Phenylphosphonic Acid. ChemCatChem, 2014, 6, 3215-3222.	3.7	26
71	Radiolytic Reduction of Hexachlorobenzene in Surfactant Solutions:Â A Steady-State and Pulse Radiolysis Study. Environmental Science & Technology, 2000, 34, 3401-3407.	10.0	24
72	Chemical amplification in an invaded food web: Seasonality and ontogeny in a highâ€biomass, lowâ€diversity ecosystem. Environmental Toxicology and Chemistry, 2008, 27, 2186-2195.	4.3	24

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73	Localization of Photoexcited Electrons and Holes on Low Coordinated Ti and O Sites in Free and Supported TiO₂ Nanoclusters. Journal of Physical Chemistry C, 2014, 118, 27890-27900.	3.1	23
74	Exploring co-occurrence patterns between organic micropollutants and bacterial community structure in a mixed-use watershed. Environmental Sciences: Processes and Impacts, 2019, 21, 867-880.	3.5	22
75	Probing photocatalytic reactions in semiconductor systems: Study of the chemical intermediates in 4 -chlorophenol degradation by a variety of methods. Research on Chemical Intermediates, 1994, 20, 835-853.	2.7	20
76	Nanostructured Titania: the current and future promise of Titania nanotubes. Catalysis Science and Technology, 2012, 2, 1617.	4.1	20
77	Chronic addition of a common engineered nanomaterial alters biomass, activity and composition of stream biofilm communities. Environmental Science: Nano, 2016, 3, 619-630.	4.3	20
78	Probing Water and CO2 Interactions at the Surface of Collapsed Titania Nanotubes Using IR Spectroscopy. Molecules, 2015, 20, 15469-15487.	3.8	19
79	Effect of oxygen deficiency on the photoresponse and reactivity of mixed phase titania thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2011, 29, 031508.	2.1	18
80	Development of associations between microalgae and denitrifying bacteria in streams of contrasting anthropogenic influence. FEMS Microbiology Ecology, 2011, 77, 477-492.	2.7	17
81	Preferred Orientation in Sputtered TiO₂ Thin Films and Its Effect on the Photo-Oxidation of Acetaldehyde. Chemistry of Materials, 2012, 24, 3355-3362.	6.7	17
82	Radiation-Induced Reactions of 2,4,6-Trinitrotoluene in Aqueous Solution. Environmental Science & Technology, 1998, 32, 971-974.	10.0	16
83	Single-Walled Carbon Nanotube-Facilitated Dispersion of Particulate TiO₂ on ZrO₂ Ceramic Membrane Filters. Langmuir, 2008, 24, 7072-7075.	3.5	16
84	Influence of Flow Conditions and System Geometry on Nitrate Use by Benthic Biofilms: Implications for Nutrient Mitigation. Environmental Science & Technology, 2007, 41, 8142-8148.	10.0	15
85	Tracking bioaccumulation in aquatic organisms: A dynamic model integrating life history characteristics and environmental change. Ecological Modelling, 2009, 220, 1266-1273.	2.5	14
86	One-Time Addition of Nano-TiO2 Triggers Short-Term Responses in Benthic Bacterial Communities in Artificial Streams. Microbial Ecology, 2016, 71, 266-275.	2.8	14
87	Comparing Acute Effects of a Nano-TiO2 Pigment on Cosmopolitan Freshwater Phototrophic Microbes Using High-Throughput Screening. PLoS ONE, 2015, 10, e0125613.	2.5	13
88	Crumpled graphene balls adsorb micropollutants from water selectively and rapidly. Carbon, 2021, 183, 958-969.	10.3	13
89	2. The response of a laboratory stream system to PCB exposure: study of periphytic and sediment accumulation patterns. Water Research, 1999, 33, 3749-3761.	11.3	12
90	The effect of Nb substitution on synthesis and photo-response of TiO2 thin films prepared by direct current magnetron sputtering. Thin Solid Films, 2011, 519, 3562-3568.	1.8	11

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91	Feasibility, system design, and economic evaluation of radiolytic degradation of 2,3,7,8-tetrachlorodibenzo-p -dioxin on soil. Water Environment Research, 1996, 68, 178-187.	2.7	10
92	1. Use of a novel laboratory stream system to study the ecological impact of PCB exposure in a periphytic biolayer. Water Research, 1999, 33, 3735-3748.	11.3	10
93	Hybrid Approach for Selective Sulfoxidation via Bioelectrochemically Derived Hydrogen Peroxide over a Niobium(V)â€"Silica Catalyst. ACS Sustainable Chemistry and Engineering, 2018, 6, 7880-7889.	6.7	10
94	Nitrogen stabilized reactive sputtering of optimized TiO2âˆ’x photocatalysts with visible light reactivity. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2009, 27, 712-715.	2.1	9
95	Regularity underlies erratic population abundances in marine ecosystems. Journal of the Royal Society Interface, 2015, 12, 20150235.	3.4	9
96	The critical role of light in moderating microbial stress due to mixtures of engineered nanomaterials. Environmental Science: Nano, 2018, 5, 96-102.	4.3	9
97	Nano-enabled, antimicrobial toothbrushes â€" How physical and chemical properties relate to antibacterial capabilities. Journal of Hazardous Materials, 2020, 396, 122445.	12.4	9
98	Phase stability and photoactivity of CuO modified titania nanotube prepared by hydrothermal method. Journal of Molecular Catalysis A, 2015, 402, 23-28.	4.8	7
99	Development of hierarchically porous cobalt oxide for enhanced photo-oxidation of indoor pollutants. Journal of Nanoparticle Research, 2015, 17, 1.	1.9	7
100	Combined toxicity of nano-CuO/nano-TiO2 and CuSO4/nano-TiO2 on Escherichia coli in aquatic environments under dark and light conditions. NanoImpact, 2020, 19, 100250.	4.5	7
101	The impacts of metal-based engineered nanomaterial mixtures on microbial systems: A review. Science of the Total Environment, 2021, 780, 146496.	8.0	7
102	TiO2 (Core)/Crumpled Graphene Oxide (Shell) Nanocomposites Show Enhanced Photodegradation of Carbamazepine. Nanomaterials, 2021, 11, 2087.	4.1	7
103	Identification of Binding Sites for Acetaldehyde Adsorption on Titania Nanorod Surfaces Using CIMS. Langmuir, 2011, 27, 14842-14848.	3.5	6
104	PCBs refocused: Correlation of PCB concentrations in Green Bay legacy sediments with adjacent lithophilic, invasive biota. Journal of Great Lakes Research, 2015, 41, 215-221.	1.9	6
105	Photochemical interactions between n-Ag₂S and n-TiO₂ amplify their bacterial stress response. Environmental Science: Nano, 2019, 6, 115-126.	4.3	5
106	The key to maximizing the benefits of antimicrobial and self-cleaning coatings is to fully determine their risks. Current Opinion in Chemical Engineering, 2021, 34, 100761.	7.8	5
107	On the Reaction of 2,4,5-Trichlorophenol with Hydroxyl Radicals:Â New Information on Transients and Their Properties. Journal of Physical Chemistry A, 2003, 107, 1307-1312.	2.5	3
108	Functionalizing a Polyelectrolyte Complex with Chitosan Derivatives to Tailor Membrane Surface Properties. Langmuir, 2020, 36, 12784-12794.	3.5	3

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109	Synthesis of high-energy anatase nanorods via an intermediate nanotube morphology. Chemical Physics Letters, 2012, 546, 106-108.	2.6	2
110	Photoâ€Initiated Reduction of CO 2 by H 2 on Silica Surface. ChemSusChem, 2018, 11, 1163-1168.	6.8	2
111	Photocatalytic Decomposition of Formaldehyde Using Titania Coated Lime Tile. Journal of Advanced Oxidation Technologies, 2007, 10, .	0.5	0
112	Five Myths about Nanotechnology in the Current Public Policy Debate. , 0, , 11-60.		0
113	Nanoscale structure of Ti_{1âˆ'<i>x</i>}Nb<i>_y</i>O₂ mixed-phase thin films: Distribution of crystal phase and dopants. Journal of Materials Research, 2012, 27, 944-950.	2.6	0
114	Photo-Initiated Reduction of CO2 by H2 on Silica Surface. ChemSusChem, 2018, 11, 1135-1135.	6.8	0
115	THE CONTROL OF COMPLEX SYSTEMS: ENERGY IN CITIES. , 2016, , .		0
116	Control of Pharmaceuticals, Personal Care Products, and Other Micropollutants: Probing the Ability of Restored Riparian Systems to Remove Trace Pollutants. Proceedings of the Water Environment Federation, 2017, 2017, 3537-3550.	0.0	0