

# Ruiyang Xiao

## List of Publications by Year in descending order

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Version: 2024-02-01

92  
papers

5,779  
citations

50170

46  
h-index

76769

74  
g-index

96  
all docs

96  
docs citations

96  
times ranked

5018  
citing authors

#	ARTICLE	IF	CITATIONS
1	New insight to superoxide radical-mediated degradation of pentachlorophenate: Kinetic determination and theoretical calculations. <i>Chemical Communications</i> , 2022, , .	2.2	7
2	Making waves: Defining advanced reduction technologies from the perspective of water treatment. <i>Water Research</i> , 2022, 212, 118101.	5.3	16
3	Mechanistic Understanding of Superoxide Radical-Mediated Degradation of Perfluorocarboxylic Acids. <i>Environmental Science &amp; Technology</i> , 2022, 56, 624-633.	4.6	45
4	Statistical and microbial analysis of bio-electrochemical sensors used for carbon monitoring at water resource recovery facilities. <i>Environmental Science: Water Research and Technology</i> , 2022, 8, 2052-2064.	1.2	6
5	Response to Comment on “Mechanistic Understanding of Superoxide Radical-Mediated Degradation of Perfluorocarboxylic Acids”: <i>Environmental Science &amp; Technology</i> , 2022, 56, 5289-5291.	4.6	2
6	Transformation of phenol and nitrobenzene by superoxide radicals: Kinetics and mechanisms. <i>Chemical Engineering Journal</i> , 2022, 442, 136134.	6.6	25
7	Kinetics and mechanistic aspects of superoxide radical-mediated transformation of ascorbate. <i>Journal of Environmental Chemical Engineering</i> , 2022, 10, 107736.	3.3	5
8	Time to act—assessing variations in qPCR analyses in biological nitrogen removal with examples from partial nitrification/anammox systems. <i>Water Research</i> , 2021, 190, 116604.	5.3	8
9	Determination and Environmental Implications of Aqueous-Phase Rate Constants in Radical Reactions. <i>Water Research</i> , 2021, 190, 116746.	5.3	65
10	Kinetics and mechanistic aspects of removal of heavy metal through gas-liquid sulfide precipitation: A computational and experimental study. <i>Journal of Hazardous Materials</i> , 2021, 408, 124868.	6.5	25
11	Emerging investigator series: could the superoxide radical be implemented in decontamination processes?. <i>Environmental Science: Water Research and Technology</i> , 2021, 7, 1966-1970.	1.2	10
12	Rational construction of covalent organic frameworks with multi-site functional groups for highly efficient removal of low-concentration U( <sup>VI</sup> ) from water. <i>Environmental Science: Nano</i> , 2021, 8, 1469-1480.	2.2	23
13	Mechanistic insight into superoxide radical-mediated degradation of carbon tetrachloride in aqueous solution: An in situ spectroscopic and computational study. <i>Chemical Engineering Journal</i> , 2021, 410, 128181.	6.6	49
14	Layered viscoelastic properties of granular biofilms. <i>Water Research</i> , 2021, 202, 117394.	5.3	8
15	Reactivity and reaction mechanisms of sulfate radicals with lindane: An experimental and theoretical study. <i>Environmental Research</i> , 2021, 201, 111523.	3.7	13
16	Applications of computational chemistry, artificial intelligence, and machine learning in aquatic chemistry research. <i>Chemical Engineering Journal</i> , 2021, 426, 131810.	6.6	49
17	Reevaluation of the Reactivity of Superoxide Radicals with a Sulfonamide Antibiotic, Sulfacetamide: An Experimental and Theoretical Study. <i>ACS ES&amp;T Water</i> , 2021, 1, 2339-2347.	2.3	17
18	An experimental and theoretical study on the degradation of clonidine by hydroxyl and sulfate radicals. <i>Science of the Total Environment</i> , 2020, 710, 136333.	3.9	79

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19	Experimental and theoretical insight into hydroxyl and sulfate radicals-mediated degradation of carbamazepine. <i>Environmental Pollution</i> , 2020, 257, 113498.	3.7	73
20	Strong synergistic effect of Co <sub>3</sub> O <sub>4</sub> encapsulated in nitrogen-doped carbon nanotubes on the nonradical-dominated persulfate activation. <i>Carbon</i> , 2020, 158, 172-183.	5.4	77
21	Polyethylenimine-modified chitosan materials for the recovery of La(III) from leachates of bauxite residue. <i>Chemical Engineering Journal</i> , 2020, 388, 124307.	6.6	86
22	Pushing the limits of solids retention time for enhanced biological phosphorus removal: process characteristics and <i>Accumulibacter</i> population structure. <i>Water Science and Technology</i> , 2020, 82, 1614-1627.	1.2	11
23	Rethinking wastewater risks and monitoring in light of the COVID-19 pandemic. <i>Nature Sustainability</i> , 2020, 3, 981-990.	11.5	195
24	Experimental and simulation studies of metal sulfide precipitates separation in copper smelting waste acid using a gravitation field-flow fractionation method. <i>Journal of Water Process Engineering</i> , 2020, 36, 101330.	2.6	4
25	Elucidating sulfate radical-mediated disinfection profiles and mechanisms of <i>Escherichia coli</i> and <i>Enterococcus faecalis</i> in municipal wastewater. <i>Water Research</i> , 2020, 173, 115552.	5.3	63
26	Limitations and prospects of sulfate-radical based advanced oxidation processes. <i>Journal of Environmental Chemical Engineering</i> , 2020, 8, 103849.	3.3	116
27	Simultaneous disinfection of <i>E. faecalis</i> and degradation of carbamazepine by sulfate radicals: An experimental and modelling study. <i>Environmental Pollution</i> , 2020, 263, 114558.	3.7	41
28	Towards mechanical characterization of granular biofilms by optical coherence elastography measurements of circumferential elastic waves. <i>Soft Matter</i> , 2019, 15, 5562-5573.	1.2	9
29	Polycyclic aromatic hydrocarbons in urban soils of China: Distribution, influencing factors, health risk and regression prediction. <i>Environmental Pollution</i> , 2019, 254, 112930.	3.7	49
30	Biomass segregation between biofilm and flocs improves the control of nitrite-oxidizing bacteria in mainstream partial nitrification and anammox processes. <i>Water Research</i> , 2019, 154, 104-116.	5.3	191
31	Nondestructive characterization of soft materials and biofilms by measurement of guided elastic wave propagation using optical coherence elastography. <i>Soft Matter</i> , 2019, 15, 575-586.	1.2	16
32	Electrophilicity index as a critical indicator for the biodegradation of the pharmaceuticals in aerobic activated sludge processes. <i>Water Research</i> , 2019, 160, 10-17.	5.3	84
33	Microbial immigration in wastewater treatment systems: analytical considerations and process implications. <i>Current Opinion in Biotechnology</i> , 2019, 57, 151-159.	3.3	36
34	The long-term effects of hexavalent chromium on anaerobic ammonium oxidation process: Performance inhibition, hexavalent chromium reduction and unexpected nitrite oxidation. <i>Bioresource Technology</i> , 2019, 283, 138-147.	4.8	59
35	Inactivation of pathogenic microorganisms by sulfate radical: Present and future. <i>Chemical Engineering Journal</i> , 2019, 371, 222-232.	6.6	118
36	Genome-centric metagenomics resolves microbial diversity and prevalent truncated denitrification pathways in a denitrifying PAO-enriched bioprocess. <i>Water Research</i> , 2019, 155, 275-287.	5.3	77

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37	Mechanical Characterization of Biofilms by Optical Coherence Elastography (OCE) Measurements of Elastic Waves. , 2019, , .		1
38	Mechanical Characterization of Biofilms by Optical Coherence Elastography (OCE) Measurements of Elastic Waves. , 2019, , .		0
39	Enhanced activation of persulfate by nitric acid/annealing modified multi-walled carbon nanotubes via non-radical process. <i>Chemosphere</i> , 2019, 220, 514-522.	4.2	66
40	Improving dewaterability and filterability of waste activated sludge by electrochemical Fenton pretreatment. <i>Chemical Engineering Journal</i> , 2019, 362, 525-536.	6.6	85
41	Mechanistic Study on the Role of Soluble Microbial Products in Sulfate Radical-Mediated Degradation of Pharmaceuticals. <i>Environmental Science &amp; Technology</i> , 2019, 53, 342-353.	4.6	83
42	Phototransformation of estrogens mediated by Mn(III), not by reactive oxygen species, in the presence of humic acids. <i>Chemosphere</i> , 2018, 201, 224-233.	4.2	41
43	Kinetic and mechanistic aspects of hydroxyl radical-mediated degradation of naproxen and reaction intermediates. <i>Water Research</i> , 2018, 137, 233-241.	5.3	160
44	Stabilization of Cd-, Pb-, Cu- and Zn-contaminated calcareous agricultural soil using red mud: a field experiment. <i>Environmental Geochemistry and Health</i> , 2018, 40, 2143-2153.	1.8	34
45	Influence of ZnO nanoparticles on anammox granules: The inhibition kinetics and mechanism analysis by batch assays. <i>Biochemical Engineering Journal</i> , 2018, 133, 122-129.	1.8	38
46	Profiling wines in China for the biogenic amines: A nationwide survey and pharmacokinetic fate modelling. <i>Food Chemistry</i> , 2018, 250, 268-275.	4.2	23
47	Metagenomics Reveals the Impact of Wastewater Treatment Plants on the Dispersal of Microorganisms and Genes in Aquatic Sediments. <i>Applied and Environmental Microbiology</i> , 2018, 84, .	1.4	144
48	Sorption and biodegradation of pharmaceuticals in aerobic activated sludge system: A combined experimental and theoretical mechanistic study. <i>Chemical Engineering Journal</i> , 2018, 342, 211-219.	6.6	80
49	Activation of peroxymonosulfate/persulfate by nanomaterials for sulfate radical-based advanced oxidation technologies. <i>Current Opinion in Chemical Engineering</i> , 2018, 19, 51-58.	3.8	352
50	Hybrid Approach for Selective Sulfoxidation via Bioelectrochemically Derived Hydrogen Peroxide over a Niobium(V)-Silica Catalyst. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 7880-7889.	3.2	10
51	Understanding Mechanisms of Synergy between Acidification and Ultrasound Treatments for Activated Sludge Dewatering: From Bench to Pilot-Scale Investigation. <i>Environmental Science &amp; Technology</i> , 2018, 52, 4313-4323.	4.6	126
52	Antibiotic resistance genes show enhanced mobilization through suspended growth and biofilm-based wastewater treatment processes. <i>FEMS Microbiology Ecology</i> , 2018, 94, .	1.3	39
53	Quantitative structure-activity relationships for reactivities of sulfate and hydroxyl radicals with aromatic contaminants through single-electron transfer pathway. <i>Journal of Hazardous Materials</i> , 2018, 344, 1165-1173.	6.5	109
54	UV direct photolysis of sulfamethoxazole and ibuprofen: An experimental and modelling study. <i>Journal of Hazardous Materials</i> , 2018, 343, 132-139.	6.5	114

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55	Sulfidation behavior and mechanism of zinc silicate roasted with pyrite. <i>Applied Surface Science</i> , 2018, 435, 1011-1019.	3.1	37
56	Synergetic pretreatment of waste activated sludge by hydrodynamic cavitation combined with Fenton reaction for enhanced dewatering. <i>Ultrasonics Sonochemistry</i> , 2018, 42, 609-618.	3.8	49
57	Structural substitution for SO <sub>4</sub> group in tooeleite crystal by As(V) and As(III) oxoanions and the environmental implications. <i>Chemosphere</i> , 2018, 213, 305-313.	4.2	13
58	Nitrous oxide emissions from biofilm processes for wastewater treatment. <i>Applied Microbiology and Biotechnology</i> , 2018, 102, 9815-9829.	1.7	71
59	Environmental Matrix Effects on Degradation Kinetics of Ibuprofen in a UV/ Persulfate System. <i>Journal of Advanced Oxidation Technologies</i> , 2018, 21, 138-148.	0.5	1
60	Kinetics and mechanisms of the formation of chlorinated and oxygenated polycyclic aromatic hydrocarbons during chlorination. <i>Chemical Engineering Journal</i> , 2018, 351, 248-257.	6.6	54
61	The temporal changes of the concentration level of typical toxic organics in the river sediments around Beijing. <i>Frontiers of Environmental Science and Engineering</i> , 2018, 12, 1.	3.3	8
62	Inhibition kinetics of ammonium oxidizing bacteria under Cu(II) and As(III) stresses during the nitrification process. <i>Chemical Engineering Journal</i> , 2018, 352, 811-817.	6.6	30
63	Hydroxyl Radical Based Photocatalytic Degradation of Halogenated Organic Contaminants and Paraffin on Silica Gel. <i>Environmental Science &amp; Technology</i> , 2018, 52, 7220-7229.	4.6	171
64	Simulation of dissolved oxygen-and ammonia-based aeration control strategies in a mainstream deammonification biofilm process. <i>Proceedings of the Water Environment Federation</i> , 2018, 2018, 5238-5247.	0.0	1
65	A novel model to predict gas-liquid phase hydroxyl radical oxidation kinetics of polychlorinated compounds. <i>Chemosphere</i> , 2017, 172, 333-340.	4.2	43
66	Quantitative structure-activity relationship for the apparent rate constants of aromatic contaminants oxidized by ferrate (VI). <i>Chemical Engineering Journal</i> , 2017, 317, 258-266.	6.6	66
67	Chemical structure-based predictive model for the oxidation of trace organic contaminants by sulfate radical. <i>Water Research</i> , 2017, 116, 106-115.	5.3	114
68	Removal of nitrogen from wastewaters by anaerobic ammonium oxidation (ANAMMOX) using granules in upflow reactors. <i>Environmental Chemistry Letters</i> , 2017, 15, 311-328.	8.3	93
69	Physicochemical and microbial properties of settled and floating anammox granules in upflow reactor. <i>Biochemical Engineering Journal</i> , 2017, 123, 75-85.	1.8	54
70	Characterization and quantification of chromate adsorption by layered porous iron oxyhydroxide: An experimental and theoretical study. <i>Journal of Hazardous Materials</i> , 2017, 338, 472-481.	6.5	29
71	Comparison of the reactivity of ibuprofen with sulfate and hydroxyl radicals: An experimental and theoretical study. <i>Science of the Total Environment</i> , 2017, 590-591, 751-760.	3.9	115
72	Mechanistic insight into degradation of endocrine disrupting chemical by hydroxyl radical: An experimental and theoretical approach. <i>Environmental Pollution</i> , 2017, 231, 1446-1452.	3.7	117

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73	Tracking changes in composition and amount of dissolved organic matter throughout drinking water treatment plants by comprehensive two-dimensional gas chromatography- <sup>13</sup> C-quadrupole mass spectrometry. <i>Science of the Total Environment</i> , 2017, 609, 123-131.	3.9	20
74	Mechanistic insight into reactivity of sulfate radical with aromatic contaminants through single-electron transfer pathway. <i>Chemical Engineering Journal</i> , 2017, 327, 1056-1065.	6.6	296
75	Control of Pharmaceuticals, Personal Care Products, and Other Micropollutants: Probing the Ability of Restored Riparian Systems to Remove Trace Pollutants. <i>Proceedings of the Water Environment Federation</i> , 2017, 2017, 3537-3550.	0.0	0
76	Microbial activity balance in size fractionated suspended growth biomass from full-scale sidestream combined nitrification-anammox reactors. <i>Bioresource Technology</i> , 2016, 218, 38-45.	4.8	63
77	Effect of pH on the sonochemical degradation of organic pollutants. <i>Environmental Chemistry Letters</i> , 2016, 14, 163-182.	8.3	56
78	Rate constants of hydroxyl radical oxidation of polychlorinated biphenyls in the gas phase: A single- $\sigma$ -descriptor based QSAR and DFT study. <i>Environmental Pollution</i> , 2016, 211, 157-164.	3.7	70
79	Bioleaching remediation of heavy metal-contaminated soils using <i>Burkholderia</i> sp. Z-90. <i>Journal of Hazardous Materials</i> , 2016, 301, 145-152.	6.5	162
80	Reduction of orthophosphates loss in agricultural soil by nano calcium sulfate. <i>Science of the Total Environment</i> , 2016, 539, 381-387.	3.9	29
81	Kinetics and Mechanism of the Oxidation of Cyclic Methylsiloxanes by Hydroxyl Radical in the Gas Phase: An Experimental and Theoretical Study. <i>Environmental Science &amp; Technology</i> , 2015, 49, 13322-13330.	4.6	84
82	Considering microbial and aggregate heterogeneity in biofilm reactor models: how far do we need to go?. <i>Water Science and Technology</i> , 2015, 72, 1692-1699.	1.2	7
83	Arsenic immobilization in the contaminated soil using poorly crystalline Fe-oxyhydroxy sulfate. <i>Environmental Science and Pollution Research</i> , 2015, 22, 12624-12632.	2.7	55
84	Designing and characterizing a multi-stepped ultrasonic horn for enhanced sonochemical performance. <i>Ultrasonics Sonochemistry</i> , 2015, 27, 325-333.	3.8	43
85	Towards an improved understanding of processes controlling absorption efficiency and biomagnification of organic chemicals by fish. <i>Chemosphere</i> , 2015, 138, 89-95.	4.2	12
86	Quantitative Structure-Activity Relationship (QSAR) for the Oxidation of Trace Organic Contaminants by Sulfate Radical. <i>Environmental Science &amp; Technology</i> , 2015, 49, 13394-13402.	4.6	228
87	Quantitative Image Analysis of Mesoscale Biofilm Structure with Optical Coherence Tomography. <i>Proceedings of the Water Environment Federation</i> , 2015, 2015, 4736-4745.	0.0	2
88	Sonochemical degradation of ciprofloxacin and ibuprofen in the presence of matrix organic compounds. <i>Ultrasonics Sonochemistry</i> , 2014, 21, 428-435.	3.8	73
89	Thermodynamic and kinetic study of ibuprofen with hydroxyl radical: A density functional theory approach. <i>International Journal of Quantum Chemistry</i> , 2014, 114, 74-83.	1.0	96
90	Kinetics and Mechanism of Sonochemical Degradation of Pharmaceuticals in Municipal Wastewater. <i>Environmental Science &amp; Technology</i> , 2014, 48, 9675-9683.	4.6	70

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91	Using pulsed wave ultrasound to evaluate the suitability of hydroxyl radical scavengers in sonochemical systems. <i>Ultrasonics Sonochemistry</i> , 2013, 20, 990-996.	3.8	30
92	Factors Influencing Pharmaceutical and Personal Care Product Degradation in Aqueous Solution Using Pulsed Wave Ultrasound. <i>Industrial &amp; Engineering Chemistry Research</i> , 2013, 52, 2824-2831.	1.8	38