James F Ranville

List of Publications by Year
in descending order

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126 papers	9,130 citations	44066 48 h-index	40976 93 g-index
130 all docs	130 docs citations	130 times ranked	9183 citing authors

#	Article	IF	Citations
1	Determining Transport Efficiency for the Purpose of Counting and Sizing Nanoparticles via Single Particle Inductively Coupled Plasma Mass Spectrometry. Analytical Chemistry, 2011, 83, 9361-9369.	6.5	609
2	Nanoparticle analysis and characterization methodologies in environmental risk assessment of engineered nanoparticles. Ecotoxicology, 2008, 17, 344-361.	2.4	543
3	Potential scenarios for nanomaterial release and subsequent alteration in the environment. Environmental Toxicology and Chemistry, 2012, 31, 50-59.	4.3	498
4	Natural, incidental, and engineered nanomaterials and their impacts on the Earth system. Science, 2019, 363, .	12.6	479
5	Nanoparticle Size Detection Limits by Single Particle ICP-MS for 40 Elements. Environmental Science & Technology, 2014, 48, 10291-10300.	10.0	366
6	Release of TiO₂ Nanoparticles from Sunscreens into Surface Waters: A One-Year Survey at the Old Danube Recreational Lake. Environmental Science & Technology, 2014, 48, 5415-5422.	10.0	344
7	Nanopesticides: Guiding Principles for Regulatory Evaluation of Environmental Risks. Journal of Agricultural and Food Chemistry, 2014, 62, 4227-4240.	5.2	308
8	Detecting nanoparticulate silver using singleâ€particle inductively coupled plasmaâ€“mass spectrometry. Environmental Toxicology and Chemistry, 2012, 31, 115-121.	4.3	277
9	Single Particle ICP-MS: Advances toward routine analysis of nanomaterials. Analytical and Bioanalytical Chemistry, 2016, 408, 5053-5074.	3.7	265
10	Solubility of nanoâ€zinc oxide in environmentally and biologically important matrices. Environmental Toxicology and Chemistry, 2012, 31, 93-99.	4.3	246
11	Silver nanoparticle characterization using single particle ICP-MS (SP-ICP-MS) and asymmetrical flow field flow fractionation ICP-MS (AF4-ICP-MS). Journal of Analytical Atomic Spectrometry, 2012, 27, 1131.	3.0	235
12	Extraction and Analysis of Silver and Gold Nanoparticles from Biological Tissues Using Single Particle Inductively Coupled Plasma Mass Spectrometry. Environmental Science & Technology, 2013, 47, 14315-14323.	10.0	193
13	Single Particle Inductively Coupled Plasma-Mass Spectrometry: A Performance Evaluation and Method Comparison in the Determination of Nanoparticle Size. Environmental Science & Technology, 2012, 46, 12272-12280.	10.0	186
14	Preserving the Distribution of Inorganic Arsenic Species in Groundwater and Acid Mine Drainage Samples. Environmental Science & Technology, 2002, 36, 2213-2218.	10.0	182
15	Characterization of silver nanoparticles using flow-field flow fractionation interfaced to inductively coupled plasma mass spectrometry. Journal of Chromatography A, 2011, 1218, 4219-4225.	3.7	155
16	Photodegradation of roxarsone in poultry litter leachates. Science of the Total Environment, 2003, 302, 237-245.	8.0	150
17	Evidence for the Aquatic Binding of Arsenate by Natural Organic Matterâ^'Suspended Fe(III). Environmental Science & Technology, 2006, 40, 5380-5387.	10.0	124
18	Geochemical, mineralogical and microbiological characteristics of sediment from a naturally reduced zone in a uranium-contaminated aquifer. Applied Geochemistry, 2012, 27, 1499-1511.	3.0	123

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19	Low risk posed by engineered and incidental nanoparticles in drinking water. Nature Nanotechnology, 2018, 13, 661-669.	31.5	118
20	Silver Nanowire Exposure Results in Internalization and Toxicity to Daphnia magna. ACS Nano, 2013, 7, 10681-10694.	14.6	117
21	Analysis of gold nanoparticle mixtures: a comparison of hydrodynamic chromatography (HDC) and asymmetrical flow field-flow fractionation (AF4) coupled to ICP-MS. Journal of Analytical Atomic Spectrometry, 2012, 27, 1532.	3.0	111
22	Field and laboratory arsenic speciation methods and their application to natural-water analysis. Water Research, 2004, 38, 355-364.	11.3	103
23	Current status and future direction for examining engineered nanoparticles in natural systems. Environmental Chemistry, 2014, 11, 351.	1.5	103
24	A regional-scale study of chromium and nickel in soils of northern California, USA. Applied Geochemistry, 2009, 24, 1500-1511.	3.0	101
25	Cardiac and vascular metal deposition with high mortality in nephrogenic systemic fibrosis. Kidney International, 2008, 73, 1413-1418.	5.2	97
26	Overcoming challenges in analysis of polydisperse metal-containing nanoparticles by single particle inductively coupled plasma mass spectrometry. Journal of Analytical Atomic Spectrometry, 2012, 27, 1093.	3.0	95
27	Bioavailability, Toxicity, and Bioaccumulation of Quantum Dot Nanoparticles to the Amphipod Leptocheirus plumulosus. Environmental Science & Technology, 2012, 46, 5550-5556.	10.0	88
28	Potential Environmental Impacts and Antimicrobial Efficacy of Silver- and Nanosilver-Containing Textiles. Environmental Science & Technology, 2016, 50, 4018-4026.	10.0	88
29	Development of sedimentation field-flow fractionation-inductively coupled plasma mass-spectrometry for the characterization of environmental colloids. Analytica Chimica Acta, 1999, 381, 315-329.	5.4	86
30	Presence of Organoarsenicals Used in Cotton Production in Agricultural Water and Soil of the Southern United States. Journal of Agricultural and Food Chemistry, 2002, 50, 7340-7344.	5.2	86
31	Dermally adhered soil: 1. Amount and particleâ€size distribution. Integrated Environmental Assessment and Management, 2006, 2, 375-384.	2.9	84
32	Multiple Method Analysis of TiO₂ Nanoparticle Uptake in Rice (Oryza sativa L.) Plants. Environmental Science & Technology, 2017, 51, 10615-10623.	10.0	84
33	Daphnia need to be gut-cleared too: the effect of exposure to and ingestion of metal-contaminated sediment on the gut-clearance patterns of D. magna. Aquatic Toxicology, 2005, 71, 143-154.	4.0	83
34	Comparison of on-line detectors for field flow fractionation analysis of nanomaterials. Talanta, 2013, 104, 140-148.	5.5	79
35	Particleâ€Size and Element Distributions of Soil Colloids. Soil Science Society of America Journal, 2005, 69, 1173-1184.	2.2	71
36	Field-flow fractionation characterization and binding properties of particulate and colloidal organic matter from the Rio Amazon and Rio Negro. Organic Geochemistry, 2002, 33, 269-279.	1.8	69

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37	Characterization of Colloidal and Humic-Bound Ni and U in the â€œDissolvedâ€•Fraction of Contaminated Sediment Extracts. Environmental Science & Technology, 2005, 39, 2478-2485.	10.0	69
38	Metal(Loid) Levels in Biological Matrices from Human Populations Exposed to Mining Contaminationâ€”Panasqueira Mine (Portugal). Journal of Toxicology and Environmental Health - Part A: Current Issues, 2012, 75, 893-908.	2.3	66
39	Effects of iron on arsenic speciation and redox chemistry in acid mine water. Journal of Geochemical Exploration, 2005, 85, 55-62.	3.2	64
40	Influence of stability on the acute toxicity of CdSe/ZnS nanocrystals to Daphnia magna. Environmental Toxicology and Chemistry, 2010, 29, 1338-1344.	4.3	62
41	Physical, chemical, and in vitro toxicological characterization of nanoparticles in chemical mechanical planarization suspensions used in the semiconductor industry: towards environmental health and safety assessments. Environmental Science: Nano, 2015, 2, 227-244.	4.3	62
42	Quantifying uranium complexation by groundwater dissolved organic carbon using asymmetrical flow field-flow fractionation. Journal of Contaminant Hydrology, 2007, 91, 233-246.	3.3	59
43	Weathering and transport of chromium and nickel from serpentinite in the Coast Range ophiolite to the Sacramento Valley, California, USA. Applied Geochemistry, 2015, 61, 72-86.	3.0	56
44	Detection of single walled carbon nanotubes by monitoring embedded metals. Environmental Sciences: Processes and Impacts, 2013, 15, 204-213.	3.5	55
45	Thioarsenic Species Associated with Increased Arsenic Release during Biostimulated Subsurface Sulfate Reduction. Environmental Science & Technology, 2014, 48, 13367-13375.	10.0	55
46	Comparing the effects of nanosilver size and coating variations on bioavailability, internalization, and elimination, using Lumbriculus variegatus. Environmental Toxicology and Chemistry, 2013, 32, 2069-2077.	4.3	54
47	The iron status in colloidal matter from the Rio Negro, Brasil. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2003, 217, 1-9.	4.7	52
48	Synchrotron X-ray 2D and 3D elemental imaging of CdSe/ZnS quantum dot nanoparticles in Daphnia magna. Analytical and Bioanalytical Chemistry, 2009, 394, 911-917.	3.7	50
49	The persistence and transformation of silver nanoparticles in littoral lake mesocosms monitored using various analytical techniques. Environmental Chemistry, 2014, 11, 419.	1.5	49
50	Phytotoxicity of silver nanoparticles to Lemna minor: Surface coating and exposure period-related effects. Science of the Total Environment, 2018, 618, 1389-1399.	8.0	48
51	The effect of hardness on the stability of citrate-stabilized gold nanoparticles and their uptake by Daphnia magna. Journal of Hazardous Materials, 2012, 213-214, 434-439.	12.4	44
52	Detection and Sizing of Ti-Containing Particles in Recreational Waters Using Single Particle ICP-MS. Bulletin of Environmental Contamination and Toxicology, 2018, 100, 120-126.	2.7	44
53	Use of a single-bowl continuous-flow centrifuge for dewatering suspended sediments: Effect on sediment physical and chemical characteristics. Hydrological Processes, 1991, 5, 201-214.	2.6	43
54	Biomonitoring of several toxic metal(loid)s in different biological matrices from environmentally and occupationally exposed populations from Panasqueira mine area, Portugal. Environmental Geochemistry and Health, 2014, 36, 255-269.	3.4	42

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55	Observed and modeled seasonal trends in dissolved and particulate Cu, Fe, Mn, and Zn in a mining-impacted stream. Water Research, 2008, 42, 3135-3145.	11.3	41
56	Quantitative resolution of nanoparticle sizes using single particle inductively coupled plasma mass spectrometry with the K-means clustering algorithm. Journal of Analytical Atomic Spectrometry, 2014, 29, 1630.	3.0	41
57	Collection and analysis of colloidal particles transported in the Mississippi River, U.S.A.. Journal of Contaminant Hydrology, 1990, 6, 241-250.	3.3	38
58	Surface Modification of Gd Nanoparticles with pH-Responsive Block Copolymers for Use As Smart MRI Contrast Agents. ACS Applied Materials & Interfaces, 2016, 8, 5040-5050.	8.0	38
59	Methods for the Detection and Characterization of Silica Colloids by Microsecond spICP-MS. Analytical Chemistry, 2016, 88, 4733-4741.	6.5	37
60	Photodegradation of polymer-CNT nanocomposites: effect of CNT loading and CNT release characteristics. Environmental Science: Nano, 2017, 4, 967-982.	4.3	36
61	Evaluation of Different Field-Flow Fractionation Techniques for Separating Bacteria. Separation Science and Technology, 2000, 35, 1761-1775.	2.5	35
62	The Use of Field and Mesocosm Experiments to Quantify Effects of Physical and Chemical Stressors in Mining-Contaminated Streams. Environmental Science & Technology, 2016, 50, 7825-7833.	10.0	33
63	Gadolinium deposition in nephrogenic systemic fibrosis: An examination of tissue using synchrotron x-ray fluorescence spectroscopy. Journal of the American Academy of Dermatology, 2010, 62, 38-44.	1.2	32
64	Analysis of pH Dependent Uranium(VI) Sorption to Nanoparticulate Hematite by Flow Field-Flow Fractionation - Inductively Coupled Plasma Mass Spectrometry. Environmental Science & Technology, 2009, 43, 5403-5409.	10.0	30
65	Application of Flow Field Flow Fractionation-ICPMS for the Study of Uranium Binding in Bacterial Cell Suspensions. Analytical Chemistry, 2005, 77, 1393-1397.	6.5	28
66	Effect of age on acute toxicity of cadmium, copper, nickel, and zinc in individualâ€metal exposures to Daphnia magna neonates. Environmental Toxicology and Chemistry, 2017, 36, 113-119.	4.3	28
67	Metal deposition in calcific uremic arteriolopathy. Journal of the American Academy of Dermatology, 2009, 61, 73-79.	1.2	27
68	Arsenic geochemistry in a biostimulated aquifer: An aqueous speciation study. Environmental Toxicology and Chemistry, 2013, 32, 1216-1223.	4.3	27
69	Measurement of the Density of Engineered Silver Nanoparticles Using Centrifugal FFF-TEM and Single Particle ICP-MS. Analytical Chemistry, 2017, 89, 6056-6064.	6.5	26
70	Using single-particle ICP-MS for monitoring metal-containing particles in tap water. Environmental Science: Water Research and Technology, 2018, 4, 1923-1932.	2.4	26
71	Coupling single particle ICP-MS with field-flow fractionation for characterizing metal nanoparticles contained in nanoplastic colloids. Environmental Science: Nano, 2020, 7, 514-524.	4.3	24
72	Radionuclides, trace elements, and radium residence in phosphogypsum of Jordan. Environmental Geochemistry and Health, 2011, 33, 149-165.	3.4	23

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73	Acute Toxicity of Ternary Cdâ€“Cuâ€“Ni and Cdâ€“Niâ€“Zn Mixtures to Daphnia magna: Dominant Metal Pairs Change along a Concentration Gradient. Environmental Science & Technology, 2017, 51, 4471-4481.	10.0	23
74	Evaluation and application of anion exchange resins to measure groundwater uranium flux at a former uranium mill site. Water Research, 2011, 45, 4866-4876.	11.3	22
75	A test of the additivity of acute toxicity of binaryâ€metal mixtures of ni with Cd, Cu, and Zn to Daphnia magna, using the inflection point of the concentrationâ€“response curves. Environmental Toxicology and Chemistry, 2016, 35, 1843-1851.	4.3	22
76	Analysis of single-walled carbon nanotubes using spICP-MS with microsecond dwell time. NanoImpact, 2016, 1, 65-72.	4.5	22
77	Methodology for quantifying engineered nanomaterial release from diverse product matrices under outdoor weathering conditions and implications for life cycle assessment. Environmental Science: Nano, 2017, 4, 1784-1797.	4.3	22
78	Biodegradation of Carbon Nanotube/Polymer Nanocomposites using a Monoculture. Environmental Science & Technology, 2018, 52, 40-51.	10.0	22
79	Opportunities for examining the natural nanogeochemical environment using recent advances in nanoparticle analysis. Journal of Analytical Atomic Spectrometry, 2019, 34, 1768-1772.	3.0	22
80	Quantification and Characterization of Nanoparticulate Zinc in an Urban Watershed. Frontiers in Environmental Science, 2020, 8, .	3.3	21
81	Spatial variations in the fate and transport of metals in a mining-influenced stream, North Fork Clear Creek, Colorado. Science of the Total Environment, 2009, 407, 6223-6234.	8.0	19
82	Effect of Surface Charge and Elemental Composition on the Swelling and Delamination of Montmorillonite Nanoclays Using Sedimentation Field-flow Fractionation and Mass Spectroscopy. Clays and Clay Minerals, 2015, 63, 457-468.	1.3	19
83	Bioavailability of sediment-associated Cu and Zn to Daphnia magna. Aquatic Toxicology, 2006, 77, 402-411.	4.0	18
84	Direct versus indirect determination of suspended sediment associated metals in a mining-influenced watershed. Applied Geochemistry, 2008, 23, 1218-1231.	3.0	18
85	Quantifying temporal and geographic variation in sunscreen and mineralogic titanium-containing nanoparticles in three recreational rivers. Science of the Total Environment, 2020, 743, 140845.	8.0	18
86	Characterization of silver nanoparticle aggregates using single particle-inductively coupled plasma-mass spectrometry (spICP-MS). Chemosphere, 2017, 171, 468-475.	8.2	17
87	Gunshot residue (GSR) analysis by single particle inductively coupled plasma mass spectrometry (spICP-MS). Forensic Science International, 2018, 288, e20-e25.	2.2	17
88	Dermally adhered soil: 2. Reconstruction of dryâ€sieve particleâ€size distributions from wetâ€sieve data. Integrated Environmental Assessment and Management, 2006, 2, 385-390.	2.9	16
89	The development of bio-carbon adsorbents from Lodgepole Pine to remediate acid mine drainage in the Rocky Mountains. Biomass and Bioenergy, 2008, 32, 267-276.	5.7	16
90	An evaluation of trace metal distribution, enrichment factors and risk in sediments of a coastal lagoon (Ria de Aveiro, Portugal). Environmental Earth Sciences, 2012, 67, 2043-2052.	2.7	16

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91	Chronic and pulse exposure effects of silver nanoparticles on natural lake phytoplankton and zooplankton. Ecotoxicology, 2017, 26, 502-515.	2.4	16
92	Nanoparticles in the environment: stability and toxicity. Reviews on Environmental Health, 2012, 27, 175-9.	2.4	15
93	Bioaccumulation and in-vivo dissolution of CdSe/ZnS with three different surface coatings by Daphnia magna. Chemosphere, 2016, 143, 115-122.	8.2	14
94	Influence of Metal Contamination and Sediment Deposition on Benthic Invertebrate Colonization at the North Fork Clear Creek Superfund Site, Colorado, USA. Environmental Science & Technology, 2018, 52, 7072-7080.	10.0	14
95	Detection and characterization of uraniumâ€“humic complexes during 1D transport studies. Geochimica Et Cosmochimica Acta, 2013, 109, 127-142.	3.9	13
96	AN ENRICHED STABLE-ISOTOPE APPROACH TO DETERMINE THE GILLâ€“ZINC BINDING PROPERTIES OF JUVENILE RAINBOW TROUT (ONCORHYNCHUS MYKISS) DURING ACUTE ZINC EXPOSURES IN HARD AND SOFT WATERS. Environmental Toxicology and Chemistry, 2009, 28, 1233.	4.3	12
97	Contaminant discharge and uncertainty estimates from passive flux meter measurements. Water Resources Research, 2012, 48, .	4.2	12
98	Simulation of a hydraulic fracturing wastewater surface spill on agricultural soil. Science of the Total Environment, 2018, 645, 229-234.	8.0	12
99	Characteristics and Stability of Incidental Iron Oxide Nanoparticles during Remediation of a Mining-Impacted Stream. Environmental Science & Technology, 2019, 53, 11214-11222.	10.0	12
100	Copper release and transformation following natural weathering of nano-enabled pressure-treated lumber. Science of the Total Environment, 2019, 668, 234-244.	8.0	12
101	Is the Factor-of-2 Rule Broadly Applicable for Evaluating the Prediction Accuracy of Metal-Toxicity Models?. Bulletin of Environmental Contamination and Toxicology, 2018, 100, 64-68.	2.7	11
102	Cholinesterase activity on Echinogammarus meridionalis (Pinkster) and Atyaephyra desmarestii (Millet): characterisation and in vivo effects of copper and zinc. Ecotoxicology, 2014, 23, 449-458.	2.4	9
103	Sequestration of arsenate from aqueous solution using 2-line ferrihydrite: equilibria, kinetics, and X-ray absorption spectroscopic analysis. Environmental Earth Sciences, 2014, 71, 3307-3318.	2.7	9
104	Exploring Nanogeochemical Environments: New Insights from Single Particle ICP-TOFMS and AF4-ICPMS. ACS Earth and Space Chemistry, 2022, 6, 943-952.	2.7	9
105	Natural organic matter. Interface Science and Technology, 2006, , 299-315.	3.3	8
106	Measurement of total Zn and Zn isotope ratios by quadrupole ICP-MS for evaluation of Zn uptake in gills of brown trout (Salmo trutta) and rainbow trout (Oncorhynchus mykiss)â˜†. Talanta, 2009, 80, 676-684.	5.5	8
107	Evaluating performance, degradation, and release behavior of a nanoform pigmented coating after natural and accelerated weathering. NanoImpact, 2020, 17, 100199.	4.5	6
108	Assessing CeO2 and TiO2 Nanoparticle Concentrations in the Seine River and Its Tributaries Near Paris. Frontiers in Environmental Science, 2021, 8, .	3.3	6

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109	Simultaneous Insight into Dissolution and Aggregation of Metal Sulfide Nanoparticles through Single-Particle Inductively Coupled Plasma Mass Spectrometry. ACS Earth and Space Chemistry, 2022, 6, 541-550.	2.7	6
110	Differentiation of colloidal and dissolved silica: analytical separation using spectrophotometry and inductively coupled plasma atomic emission spectrometry. Analytica Chimica Acta, 1991, 249, 509-511.	5.4	4
111	A Simple Scheme to Determine Potential Aquatic Metal Toxicity from Mining Wastes. Environmental Forensics, 2007, 8, 119-128.	2.6	4
112	Field-Flow Fractionation Coupled to Inductively Coupled Plasma-Mass Spectrometry (FFF-ICP-MS): Methodology and Application to Environmental Nanoparticle Research. , 2012, , 277-299.		4
113	COMPARISON OF MINE WASTE ASSESSMENT METHODS AT THE RATTLER MINE SITE, VIRGINIA CANYON, COLORADO. Journal of the American Society of Mining and Reclamation, 2005, 2005, 470-486.	0.3	4
114	Feeding preferences of two detritivores related to size and metal content of leaves: the crustaceans Atyaephyra desmarestii (Millet) and Echinogammarus meridionalis (Pinkster). Environmental Science and Pollution Research, 2014, 21, 12325-12335.	5.3	3
115	Physiological effects of essential metals on two detritivores: Atyaephyra desmarestii (Millet) and Echinogammarus meridionalis (Pinkster). Environmental Toxicology and Chemistry, 2016, 35, 1442-1448.	4.3	3
116	Reactive transport modeling of remedial scenarios to predict cadmium, copper, and zinc in north fork of Clear Creek, Colorado. Remediation, 2009, 19, 101-119.	2.4	2
117	Size Distributions. Frontiers of Nanoscience, 2015, 8, 91-121.	0.6	2
118	Ageâ€related differences in sensitivity to metals can matter for Daphnia magna neonates. Integrated Environmental Assessment and Management, 2017, 13, 208-210.	2.9	2
119	PREDICTING TOXIC EFFECTS OF COPPER ON AQUATIC BIOTA IN MINERALIZED AREAS BY USING THE BIOTIC LIGAND MODEL. Journal of the American Society of Mining and Reclamation, 2006, 2006, 2055-2077.	0.3	2
120	Distribution of potentially toxic metal and radionuclide contamination in soils related to phosphogypsum waste stockpiling in the Eshidiya Mine, Jordan. Geochemistry: Exploration, Environment, Analysis, 2010, 10, 419-433.	0.9	1
121	Assessment of Young Dong tributary and Imgok Creek impacted by Young Dong coal mine, South Korea. Environmental Geochemistry and Health, 2012, 34, 95-103.	3.4	1
122	CHARACTERIZATION AND LEACH TEST ASSESSMENT AT THE TIP TOP MINE, A MARGINALLY IMPACTED SITE. Journal of the American Society of Mining and Reclamation, 2005, 2005, 737-749.	0.3	1
123	Stream Mesocosm Experiments Show no Protective Effects of Calcium on Copper Toxicity to Macroinvertebrates. Environmental Toxicology and Chemistry, 2022, 41, 1304-1310.	4.3	1
124	Distribution and mode of occurrences of radionuclides in phosphogypsum from the Aqaba and Eshidiya fertilizer plants, Jordan. Diqiu Huaxue, 2006, 25, 178-178.	0.5	0
125	Coupled Microbial and Chemical Reactions in Uranium Bioremediation. , 2006, , 183-190.		0
126	Evaluating performance, degradation, and release behavior of a nanoform pigmented coating after natural and accelerated weathering. NanoImpact, 2020, 17, .	4.5	0