Wooyong Um

List of Publications by Year
in descending order

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113	3,335	147566	182168
papers	citations	31 h-index	51 g-index

126	126	126	3636
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Sulfurâ€Functionalized Mesoporous Carbon. Advanced Functional Materials, 2007, 17, 2897-2901.	7.8	251
2	Dendritic Chelating Agents. 1. Cu(II) Binding to Ethylene Diamine Core Poly(amidoamine) Dendrimers in Aqueous Solutions. Langmuir, 2004, 20, 2640-2651.	1.6	200
3	Chalcogen-Based Aerogels As Sorbents for Radionuclide Remediation. Environmental Science & Technology, 2013, 47, 7540-7547.	4.6	161
4	Review: Role of chemistry, mechanics, and transport on well integrity in CO2 storage environments. International Journal of Greenhouse Gas Control, 2016, 49, 149-160.	2.3	141
5	Immobilization of 99-Technetium (VII) by Fe(II)-Goethite and Limited Reoxidation. Environmental Science & Technology, 2011, 45, 4904-4913.	4.6	124
6	Impeding 99Tc(IV) mobility in novel waste forms. Nature Communications, 2016, 7, 12067.	5.8	94
7	Magnetic mesoporous materials for removal of environmental wastes. Journal of Hazardous Materials, 2011, 192, 1140-1147.	6.5	78
8	2D and 3D imaging resolution trade-offs in quantifying pore throats for prediction of permeability. Advances in Water Resources, 2013, 62, 1-12.	1.7	70
9	Reduction and Simultaneous Removal of ⁹⁹Tc and Cr by Fe(OH)₂(s) Mineral Transformation. Environmental Science & Technology, 2017, 51, 8635-8642.	4.6	68
10	Influence of Phosphate and Silica on U(VI) Precipitation from Acidic and Neutralized Wastewaters. Environmental Science & Technology, 2014, 48, 6097-6106.	4.6	59
11	Technetium Incorporation into Goethite (Î±-FeOOH): An Atomic-Scale Investigation. Environmental Science & Technology, 2015, 49, 13699-13707.	4.6	58
12	Linearity and reversibility of iodide adsorption on sediments from Hanford, Washington under water saturated conditions. Water Research, 2004, 38, 2009-2016.	5.3	57
13	Effects of Radiation and Temperature on Iodide Sorption by Surfactant-Modified Bentonite. Environmental Science & Technology, 2014, 48, 9684-9691.	4.6	57
14	Magnetite-based adsorbents for sequestration of radionuclides: a review. RSC Advances, 2018, 8, 2521-2540.	1.7	57
15	Development of bismuth-functionalized graphene oxide to remove radioactive iodine. Dalton Transactions, 2019, 48, 478-485.	1.6	57
16	Experimental study of potential wellbore cement carbonation by various phases of carbon dioxide during geologic carbon sequestration. Applied Geochemistry, 2013, 35, 161-172.	1.4	51
17	Wellbore cement fracture evolution at the cementâ€“basalt caprock interface during geologic carbon sequestration. Applied Geochemistry, 2014, 47, 1-16.	1.4	50
18	Imaging Wellbore Cement Degradation by Carbon Dioxide under Geologic Sequestration Conditions Using X-ray Computed Microtomography. Environmental Science & Technology, 2013, 47, 283-289.	4.6	48

#	Article	IF	Citations
19	Nanostructured MgFe and CoCr layered double hydroxides for removal and sequestration of iodine anions. Chemical Engineering Journal, 2020, 380, 122408.	6.6	47
20	Iron oxide waste form for stabilizing 99Tc. Journal of Nuclear Materials, 2012, 429, 201-209.	1.3	46
21	Synthesis of nanoporous zirconium oxophosphate and application for removal of U(VI). Water Research, 2007, 41, 3217-3226.	5.3	45
22	Effect of oxygen co-injected with carbon dioxide on Gothic shale caprockâ€“CO2â€“brine interaction during geologic carbon sequestration. Chemical Geology, 2013, 354, 1-14.	1.4	45
23	Superparamagnetic Adsorbent Based on Phosphonate Grafted Mesoporous Carbon for Uranium Removal. Industrial & Engineering Chemistry Research, 2017, 56, 9821-9830.	1.8	45
24	Measuring the specific surface area of natural and manmade glasses: effects of formation process, morphology, and particle size. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2003, 215, 221-239.	2.3	42
25	Uranium Phases in Contaminated Sediments below Hanfordâ€™s U Tank Farm. Environmental Science & Technology, 2009, 43, 4280-4286.	4.6	42
26	Sorption and transport behavior of radionuclides in the proposed low-level radioactive waste disposal facility at the Hanford site, Washington. Radiochimica Acta, 2005, 93, 57-63.	0.5	40
27	Uranium(VI) sorption on iron oxides in Hanford Site sediment: Application of a surface complexation model. Applied Geochemistry, 2008, 23, 2649-2657.	1.4	38
28	Recyclable superparamagnetic adsorbent based on mesoporous carbon for sequestration of radioactive Cesium. Chemical Engineering Journal, 2017, 308, 798-808.	6.6	37
29	Characterization of uranium-contaminated sediments from beneath a nuclear waste storage tank from Hanford, Washington: Implications for contaminant transport and fate. Geochimica Et Cosmochimica Acta, 2010, 74, 1363-1380.	1.6	36
30	Changes in the pore network structure of Hanford sediment after reaction with caustic tank wastes. Journal of Contaminant Hydrology, 2012, 131, 89-99.	1.6	36
31	Inorganic Waste Forms for Efficient Immobilization of Radionuclides. ACS ES&T Engineering, 2021, 1, 1149-1170.	3.7	34
32	Surface Complexation Modeling of U(VI) Sorption to Hanford Sediment with Varying Geochemical Conditions. Environmental Science & Technology, 2007, 41, 3587-3592.	4.6	33
33	U(VI) adsorption on aquifer sediments at the Hanford Site. Journal of Contaminant Hydrology, 2007, 93, 255-269.	1.6	32
34	Computational Investigation of Technetium(IV) Incorporation into Inverse Spinels: Magnetite (Fe₃O₄) and Trevorite (NiFe₂O₄). Environmental Science & Technology, 2016, 50, 5216-5224.	4.6	32
35	Development of geopolymer waste form for immobilization of radioactive borate waste. Journal of Hazardous Materials, 2021, 419, 126402.	6.5	30
36	Transport of Strontium and Cesium in Simulated Hanford Tank Waste Leachate through Quartz Sand under Saturated and Unsaturated Flow. Environmental Science & Technology, 2010, 44, 8089-8094.	4.6	28

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37	Polymer-Cement Composites with Self-Healing Ability for Geothermal and Fossil Energy Applications. Chemistry of Materials, 2017, 29, 4708-4718.	3.2	28
38	Tomographic analysis of reactive flow induced pore structure changes in column experiments. Advances in Water Resources, 2009, 32, 1396-1403.	1.7	26
39	Environmentally friendly, rheoreversible, hydraulic-fracturing fluids for enhanced geothermal systems. Geothermics, 2015, 58, 22-31.	1.5	26
40	Resupply mechanism to a contaminated aquifer: A laboratory study of U(VI) desorption from capillary fringe sediments. Geochimica Et Cosmochimica Acta, 2010, 74, 5155-5170.	1.6	24
41	Fenton and Fenton-like wet oxidation for degradation and destruction of organic radioactive wastes. Npj Materials Degradation, 2021, 5, .	2.6	24
42	Development of metakaolin-based geopolymer for solidification of sulfate-rich HyBRID sludge waste. Journal of Nuclear Materials, 2019, 518, 247-255.	1.3	22
43	Insights into the physical and chemical properties of a cement-polymer composite developed for geothermal wellbore applications. Cement and Concrete Composites, 2019, 97, 279-287.	4.6	22
44	Co2+/PMS based sulfate-radical treatment for effective mineralization of spent ion exchange resin. Chemosphere, 2022, 287, 132351.	4.2	22
45	Sorption mechanisms of Sr and Pb on zeolitized tuffs from the Nevada test site as a function of pH and ionic strength. American Mineralogist, 2003, 88, 2028-2039.	0.9	21
46	Enhanced Radionuclide Immobilization and Flow Path Modifications by Dissolution and Secondary Precipitates. Journal of Environmental Quality, 2005, 34, 1404-1414.	1.0	21
47	Strontium and Cesium Release Mechanisms during Unsaturated Flow through Waste-Weathered Hanford Sediments. Environmental Science & Technology, 2011, 45, 8313-8320.	4.6	21
48	Characteristics of Cast Stone cementitious waste form for immobilization of secondary wastes from vitrification process. Journal of Nuclear Materials, 2012, 420, 164-174.	1.3	21
49	Iron phosphate glass for immobilization of 99Tc. Journal of Nuclear Materials, 2013, 441, 262-266.	1.3	21
50	Synthesis of Tributyl Phosphate-Coated Hydroxyapatite for Selective Uranium Removal. Industrial & Engineering Chemistry Research, 2017, 56, 3399-3406.	1.8	21
51	Enhanced 99Tc retention in glass waste form using Tc(IV)-incorporated Fe minerals. Journal of Nuclear Materials, 2017, 495, 455-462.	1.3	21
52	Uptake Mechanism for Iodine Species to Black Carbon. Environmental Science & Technology, 2013, 47, 130827075129003.	4.6	20
53	Development of iron phosphate ceramic waste form to immobilize radioactive waste solution. Journal of Nuclear Materials, 2014, 452, 16-23.	1.3	20
54	Metal Ion Sorption and Desorption on Zeolitized Tuffs from the Nevada Test Site. Environmental Science & Technology, 2004, 38, 496-502.	4.6	18

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55	Development of a Geochemical Speciation Model for Use in Evaluating Leaching from a Cementitious Radioactive Waste Form. Environmental Science & Technology, 2021, 55, 8642-8653.	4.6	18
56	Superparamagnetic nalidixic acid grafted magnetite (Fe₃O₄/NA) for rapid and efficient mercury removal from water. RSC Advances, 2016, 6, 35825-35832.	1.7	17
57	Geochemical alteration of wellbore cement by CO₂ or CO₂â€‰+â€‰H₂S reaction during longâ€term carbon storage. , 2017, 7, 852-865.		17
58	Uranium speciation in acid waste-weathered sediments: The role of aging and phosphate amendments. Applied Geochemistry, 2018, 89, 109-120.	1.4	17
59	Setting and stiffening of cementitious components in Cast Stone waste form for disposal of secondary wastes from the Hanford waste treatment and immobilization plant. Cement and Concrete Research, 2013, 46, 14-22.	4.6	16
60	Comparative study of PMS oxidation with Fenton oxidation as an advanced oxidation process for Co-EDTA decomplexation. Chemosphere, 2022, 300, 134494.	4.2	16
61	Tellurite glasses for vitrification of technetium-99 from pyrochemical processing. Journal of Nuclear Materials, 2017, 493, 1-5.	1.3	15
62	Uranium Release from Acidic Weathered Hanford Sediments: Single-Pass Flow-Through and Column Experiments. Environmental Science & Technology, 2017, 51, 11011-11019.	4.6	15
63	Effect of Technetium-99 sources on its retention in low activity waste glass. Journal of Nuclear Materials, 2018, 503, 235-244.	1.3	15
64	Chemical stabilization of Hanford tank residual waste. Journal of Nuclear Materials, 2014, 446, 246-256.	1.3	14
65	Numerical Simulation of Permeability Change in Wellbore Cement Fractures after Geomechanical Stress and Geochemical Reactions Using X-ray Computed Tomography Imaging. Environmental Science & Technology, 2016, 50, 6180-6188.	4.6	14
66	Effect of chemical and physical heterogeneities on colloid-facilitated cesium transport. Journal of Contaminant Hydrology, 2018, 213, 22-27.	1.6	14
67	Bench-scale electrokinetic remediation for cesium-contaminated sediment at the Hanford Site, USA. Journal of Radioanalytical and Nuclear Chemistry, 2015, 304, 615-625.	0.7	13
68	Reductive capacity measurement of waste forms for secondary radioactive wastes. Journal of Nuclear Materials, 2015, 467, 251-259.	1.3	12
69	Rates and mechanisms of uranyl oxyhydroxide mineral dissolution. Geochimica Et Cosmochimica Acta, 2017, 207, 298-321.	1.6	12
70	Synthesis of rhenium-doped tin dioxide for technetium radioactive waste immobilization. Journal of Nuclear Materials, 2018, 505, 134-142.	1.3	12
71	Simultaneous removal of cesium and iodate using prussian blue functionalized CoCr layered double hydroxide (PB-LDH). Journal of Environmental Chemical Engineering, 2022, 10, 107477.	3.3	12
72	Cr(VI) Effect on Tc-99 Removal from Hanford Low-Activity Waste Simulant by Ferrous Hydroxide. Environmental Science & Technology, 2018, 52, 11752-11759.	4.6	11

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73	99Tc immobilization from off-gas waste streams using nickel-doped iron spinel. Journal of Hazardous Materials, 2019, 364, 69-77.	6.5	11
74	Dissolved Carbonate and pH Control the Dissolution of Uranyl Phosphate Minerals in Flow-Through Porous Media. Environmental Science & Technology, 2020, 54, 6031-6042.	4.6	11
75	Dissolution of studtite [UO2(O2)(H2O)4] in various geochemical conditions. Journal of Environmental Radioactivity, 2018, 189, 57-66.	0.9	10
76	Biogeochemical changes at early stage after the closure of radioactive waste geological repository in South Korea. Annals of Nuclear Energy, 2014, 71, 6-10.	0.9	9
77	Effects of iron oxides on the rheological properties of cementitious slurry. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2014, 453, 94-100.	2.3	9
78	Removal of iodine (Iâ¯ and IO3â¯) from aqueous solutions using CoAl and NiAl layered double hydroxides. Chemical Engineering Journal, 2022, 430, 132788.	6.6	9
79	Mineral dissolution and secondary precipitation on quartz sand in simulated Hanford tank solutions affecting subsurface porosity. Journal of Hydrology, 2012, 472-473, 159-168.	2.3	8
80	Facilitated strontium transport by remobilization of strontium-containing secondary precipitates in Hanfod Site subsurface. Journal of Hazardous Materials, 2013, 248-249, 364-370.	6.5	8
81	Geochemical and Geomechanical Effects on Wellbore Cement Fractures. Energy Procedia, 2014, 63, 5808-5812.	1.8	8
82	Characterizing Technetium in Subsurface Sediments for Contaminant Remediation. ACS Earth and Space Chemistry, 2018, 2, 1145-1160.	1.2	8
83	Process optimization and safety assessment on a pilot-scale Bunsen process in sulfurâ€“iodine cycle. International Journal of Hydrogen Energy, 2021, 46, 33616-33634.	3.8	8
84	Liquid Scintillation Counting Methodology for ⁹⁹Tc Analysis: A Remedy for Radiopharmaceutical Waste. Analytical Chemistry, 2015, 87, 9054-9060.	3.2	7
85	Relative permeability for water and gas through fractures in cement. PLoS ONE, 2019, 14, e0210741.	1.1	7
86	Temporal changes of geochemistry and microbial community in low and intermediate level waste (LILW) repository, South Korea. Annals of Nuclear Energy, 2019, 128, 309-317.	0.9	7
87	Transport of Colloidal Particles in Microscopic Porous Medium Analogues with Surface Charge Heterogeneity: Experiments and the Fundamental Role of Single-Bead Deposition. Environmental Science & Technology, 2020, 54, 13651-13660.	4.6	7
88	Fenton-like treatment for reduction of simulated carbon-14 spent resin. Journal of Environmental Chemical Engineering, 2021, 9, 104740.	3.3	7
89	Effect of seawater intrusion on radioactive strontium (⁹⁰Sr) sorption and transport at nuclear power plants. Radiochimica Acta, 2018, 106, 147-160.	0.5	6
90	Removal of Chalk River unidentified deposit (CRUD) radioactive waste by enhanced electrokinetic process. Journal of Industrial and Engineering Chemistry, 2018, 57, 89-96.	2.9	6

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91	Energy, safety, and absorption efficiency evaluation of a pilot-scale H2S abatement process using MDEA solution in a coke-oven gas. Journal of Environmental Chemical Engineering, 2021, 9, 105037.	3.3	6
92	Bead-Based Microfluidic Sediment Analogues: Fabrication and Colloid Transport. Langmuir, 2016, 32, 9342-9350.	1.6	5
93	Structure analysis of vitusite glassâ€“ceramic waste forms using extended X-ray absorption fine structures. Ceramics International, 2017, 43, 4687-4691.	2.3	5
94	Kinetics of Co-Mingled ⁹⁹Tc and Cr Removal during Mineral Transformation of Ferrous Hydroxide. ACS Earth and Space Chemistry, 2020, 4, 218-228.	1.2	5
95	A Focused Ion Beam-Scanning Transmission Electron Microscopy with Energy-Dispersive X-ray Spectroscopy Study on Technetium Incorporation within Iron Oxides through Fe(OH)₂(s) Mineral Transformation. ACS Earth and Space Chemistry, 2021, 5, 525-534.	1.2	5
96	The effect of gravel size fraction on the distribution coefficients of selected radionuclides. Journal of Contaminant Hydrology, 2009, 107, 82-90.	1.6	4
97	Investigation of 3H, 99Tc, and 90Sr transport in fractured rock and the effects of fracture-filling/coating material at LILW disposal facility. Environmental Geochemistry and Health, 2019, 41, 411-425.	1.8	4
98	Effects of Weathering Processes on Radioactive Cesium Sorption with Mineral Characterization in Korean Nuclear Facility Site. Journal of the Mineralogical Society of Korea, 2013, 26, 209-218.	0.2	4
99	The evolution of hydrated lime-based cementitious waste forms during leach testing leading to enhanced technetium retention. Journal of Hazardous Materials, 2022, 430, 128507.	6.5	4
100	Effects of hydrated lime on radionuclides stabilization of Hanford tank residual waste. Chemosphere, 2017, 185, 171-177.	4.2	3
101	Impact of Cr and Co on 99Tc retention in magnetite: A combined study of ab initio molecular dynamics and experiments. Journal of Hazardous Materials, 2020, 387, 121721.	6.5	3
102	Relationship between leaching behavior and glass structure of calcium-aluminoborate waste glasses with various La2O3 contents. Journal of Nuclear Materials, 2020, 539, 152331.	1.3	3
103	Metallic technetium sequestration in nickel core/shell microstructure during Fe(OH)2 transformation with Ni doping. Journal of Hazardous Materials, 2022, 425, 127779.	6.5	3
104	Waterâ€dispersible nanocolloids and higher temperatures promote the release of carbon from riparian soil. Vadose Zone Journal, 2020, 19, e20077.	1.3	2
105	Evaluating thermal stability of rare-earth containing wasteforms at extraordinary nuclear disposal conditions. Nuclear Engineering and Technology, 2021, 53, 2576-2581.	1.1	2
106	Decontamination of radioactive metal wastes using underwater microwave plasma. Journal of Environmental Chemical Engineering, 2022, 10, 107090.	3.3	2
107	The Effects of Secondary Mineral Precipitates on 90Sr Mobility at the Hanford Site, USA. Procedia Earth and Planetary Science, 2013, 7, 855-858.	0.6	1
108	Sludge Reduction by H₂O₂ Oxidation with Fe/MgO Catalyst. Water Environment Research, 2015, 87, 675-682.	1.3	1

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109	Charge transfer rhenium complexes analogue to pertechnetate removal. Journal of Environmental Chemical Engineering, 2020, 8, 104366.	3.3	1
110	Partitioning effects and corrosion characteristics of oxyapatite glass-ceramic wasteforms sequestering rare-earth elements. Nuclear Engineering and Technology, 2022, 54, 997-1002.	1.1	1
111	Effect of ion exchange resin particle size on homogeneity and leachability of Cs and Co in polymer waste form. RSC Advances, 2021, 11, 2729-2732.	1.7	1
112	Fracture Flow of Radionuclides in Unsaturated Conditions at LILW Disposal Facility. Daehan Hwan'gyeong Gonghag Hoeji, 2015, 37, 465-471.	0.4	0
113	Kinetics and mechanism of rhenium-ethylenediaminetetraacetic acid (Re(IV)-EDTA) complex degradation; For 99Tc-EDTA degradation in the natural environment. Environmental Technology and Innovation, 2022, 27, 102492.	3.0	0