Wayne W Lukens

List of Publications by Year
in descending order

84 papers	3,959 citations	101496 36 h-index	123376 61 g-index
89 all docs	89 docs citations	89 times ranked	3535 citing authors

#	Article	IF	Citations
1	Evaluating Pore Sizes in Mesoporous Materials:Â A Simplified Standard Adsorption Method and a Simplified Broekhoffâ˚de Boer Method. Langmuir, 1999, 15, 5403-5409.	1.6	456
2	Influence of Pyrazolate vs N-Heterocyclic Carbene Ligands on the Slow Magnetic Relaxation of Homoleptic Trischelate Lanthanide(III) and Uranium(III) Complexes. Journal of the American Chemical Society, 2014, 136, 6056-6068.	6.6	222
3	A Well-Defined, Silica-Supported Tungsten Imido Alkylidene Olefin Metathesis Catalyst. Organometallics, 2006, 25, 3554-3557.	1.1	152
4	Cerocene Revisited: The Electronic Structure of and Interconversion Between Ce₂(C₈H₈)₃ and Ce(C₈H₈)₂. Organometallics, 2009, 28, 698-707.	1.1	127
5	Immobilization of 99-Technetium (VII) by Fe(II)-Goethite and Limited Reoxidation. Environmental Science & Technology, 2011, 45, 4904-4913.	4.6	124
6	Decamethylytterbocene Complexes of Bipyridines and Diazabutadienes: Multiconfigurational Ground States and Open-Shell Singlet Formation. Journal of the American Chemical Society, 2009, 131, 6480-6491.	6.6	112
7	Removal of Pertechnetate from Simulated Nuclear Waste Streams Using Supported Zerovalent Iron. Chemistry of Materials, 2007, 19, 5703-5713.	3.2	110
8	Products of Pertechnetate Radiolysis in Highly Alkaline Solution:Â Structure of TcO2Â·xH2O. Environmental Science & Technology, 2002, 36, 1124-1129.	4.6	108
9	Impeding 99Tc(IV) mobility in novel waste forms. Nature Communications, 2016, 7, 12067.	5.8	94
10	Intermediate-Valence Tautomerism in Decamethylytterbocene Complexes of Methyl-Substituted Bipyridines. Journal of the American Chemical Society, 2010, 132, 17537-17549.	6.6	92
11	Quantifying the Ïƒ and Ï€ Interactions between U(V) f Orbitals and Halide, Alkyl, Alkoxide, Amide and Ketimide Ligands. Journal of the American Chemical Society, 2013, 135, 10742-10754.	6.6	91
12	Evolution of Technetium Speciation in Reducing Grout. Environmental Science & Technology, 2005, 39, 8064-8070.	4.6	90
13	Synthesis of Mesoporous Carbon Foams Templated by Organic Colloids. Chemistry of Materials, 2002, 14, 1665-1670.	3.2	79
14	Molecular and Electronic Structure of Dinuclear Uranium Bis-Î¼-Oxo Complexes with Diamond Core Structural Motifs. Journal of the American Chemical Society, 2014, 136, 11980-11993.	6.6	78
15	Dissimilar Behavior of Technetium and Rhenium in Borosilicate Waste Glass as Determined by X-ray Absorption Spectroscopy. Chemistry of Materials, 2007, 19, 559-566.	3.2	77
16	Preparation, Solution Behavior, and Solid-State Structures of (1,3-R2C5H3)2UX2, Where R Is CMe3or SiMe3and X Is a One-Electron Ligand. Organometallics, 1999, 18, 1235-1246.	1.1	75
17	Reversible Sigma Câ€“C Bond Formation Between Phenanthroline Ligands Activated by (C₅Me₅)₂Yb. Journal of the American Chemical Society, 2014, 136, 8626-8641.	6.6	75
18	Quantitative Evidence for Lanthanide-Oxygen Orbital Mixing in CeO₂, PrO₂, and TbO₂. Journal of the American Chemical Society, 2017, 139, 18052-18064.	6.6	75

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19	Electronic and structural investigations of technetium compounds by x-ray absorption spectroscopy. Inorganic Chemistry, 1995, 34, 193-198.	1.9	68
20	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
21	Competitive Incorporation of Perrhenate and Nitrate into Sodalite. Environmental Science & Technology, 2014, 48, 12851-12857.	4.6	66
22	Identification of the Non-Pertechnetate Species in Hanford Waste Tanks, Tc(I)â˜Carbonyl Complexes. Environmental Science & Technology, 2004, 38, 229-233.	4.6	65
23	Probing the 5f Orbital Contribution to the Bonding in a U(V) Ketimide Complex. Journal of the American Chemical Society, 2012, 134, 4931-4940.	6.6	65
24	Rhenium Solubility in Borosilicate Nuclear Waste Glass: Implications for the Processing and Immobilization of Technetium-99. Environmental Science & Technology, 2012, 46, 12616-12622.	4.6	62
25	Near-IR Two Photon Microscopy Imaging of Silica Nanoparticles Functionalized with Isolated Sensitized Yb(III) Centers. Chemistry of Materials, 2014, 26, 1062-1073.	3.2	61
26	Synthesis and Characterization of Thorium(IV) and Uranium(IV) Corrole Complexes. Journal of the American Chemical Society, 2013, 135, 13965-13971.	6.6	60
27	Synthesis of Mesocellular Silica Foams with Tunable Window and Cell Dimensions. Chemistry of Materials, 2001, 13, 28-34.	3.2	58
28	Covalency in Metalâ€“Oxygen Multiple Bonds Evaluated Using Oxygen K-edge Spectroscopy and Electronic Structure Theory. Journal of the American Chemical Society, 2013, 135, 1864-1871.	6.6	57
29	Removal of TcO₄^{â€“} from Representative Nuclear Waste Streams with Layered Potassium Metal Sulfide Materials. Chemistry of Materials, 2016, 28, 3976-3983.	3.2	56
30	Is the bipyridyl thorium metallocene a low-valent thorium complex? A combined experimental and computational study. Chemical Science, 2013, 4, 1168.	3.7	53
31	Photoreduction of⁹⁹Tc Pertechnetate by Nanometer-Sized Metal Oxides: New Strategies for Formation and Sequestration of Low-Valent Technetium. Journal of the American Chemical Society, 2011, 133, 18802-18815.	6.6	49
32	Iron oxide waste form for stabilizing 99Tc. Journal of Nuclear Materials, 2012, 429, 201-209.	1.3	46
33	Application of the Hubbard Model to Cp*₂Yb(bipy), a Model System for Strong Exchange Coupling in Lanthanide Systems. Inorganic Chemistry, 2012, 51, 10105-10110.	1.9	44
34	Quantifying Exchange Coupling in f-Ion Pairs Using the Diamagnetic Substitution Method. Inorganic Chemistry, 2010, 49, 4458-4465.	1.9	42
35	Perrhenate incorporation into binary mixed sodalites: The role of anion size and implications for technetium-99 sequestration. Chemical Geology, 2015, 395, 138-143.	1.4	41
36	Magnetic Memory from Site Isolated Dy(III) on Silica Materials. ACS Central Science, 2017, 3, 244-249.	5.3	40

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37	Evidence for 5d-Ïƒ and 5d-Ï€ covalency in lanthanide sesquioxides from oxygen K-edge X-ray absorption spectroscopy. Dalton Transactions, 2016, 45, 9948-9961.	1.6	39
38	Redox-dependent solubility of technetium in low activity waste glass. Journal of Nuclear Materials, 2014, 449, 173-180.	1.3	37
39	Technetium Stabilization in Low-Solubility Sulfide Phases: A Review. ACS Earth and Space Chemistry, 2018, 2, 532-547.	1.2	36
40	Structures of Substituted-Cyclopentadienyl Uranium(III) Dimers and Related Uranium Metallocenes Deduced by EXAFS. Organometallics, 1999, 18, 1253-1258.	1.1	32
41	Incorporation of Technetium into Spinel Ferrites. Environmental Science & Technology, 2016, 50, 13160-13168.	4.6	32
42	Tc and Re Behavior in Borosilicate Waste Glass Vapor Hydration Tests. Environmental Science & Technology, 2007, 41, 431-436.	4.6	30
43	Solution Structure and Behavior of Dimeric Uranium(III) Metallocene Halides. Organometallics, 1999, 18, 1247-1252.	1.1	29
44	A Macrocyclic Chelator That Selectively Binds Ln⁴⁺ over Ln³⁺ by a Factor of 10²⁹. Inorganic Chemistry, 2016, 55, 9989-10002.	1.9	29
45	Strong Ferromagnetic Exchange Coupling and Single-Molecule Magnetism in MoS₄³^{â€“}-Bridged Dilanthanide Complexes. Journal of the American Chemical Society, 2021, 143, 8465-8475.	6.6	27
46	Chemical Trends in Solid Alkali Pertechnetates. Inorganic Chemistry, 2017, 56, 2533-2544.	1.9	26
47	Getters for improved technetium containment in cementitious waste forms. Journal of Hazardous Materials, 2018, 341, 238-247.	6.5	25
48	Reduction of Pertechnetate by Acetohydroxamic Acid: Formation of [Tc^{II}(NO)(AHA)₂(H₂O)]⁺ and Implications for the UREX Process. Inorganic Chemistry, 2008, 47, 6674-6680.	1.9	22
49	Synthesis, Structure Elucidation, and Redox Properties of⁹⁹Tc Complexes of Lacunary Wellsâ€“Dawson Polyoxometalates: Insights into Molecular⁹⁹Tcâ€“Metal Oxide Interactions. Inorganic Chemistry, 2011, 50, 1670-1681.	1.9	22
50	Tc and Re behavior in borosilicate waste glass vapor hydration tests II. Journal of Nuclear Materials, 2012, 429, 159-165.	1.3	22
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	Radiolysis of TcO4-in Alkaline, Nitrate Solutions:Â Reduction by NO32-. Journal of Physical Chemistry A, 2001, 105, 9611-9615.	1.1	19
53	Raman studies of technetium in borosilicate waste glass. Radiochimica Acta, 2007, 95, 275-280.	0.5	19
54	Structure and Thermochemistry of Perrhenate Sodalite and Mixed Guest Perrhenate/Pertechnetate Sodalite. Environmental Science & Technology, 2017, 51, 997-1006.	4.6	19

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55	The function of Sn(II)-apatite as a Tc immobilizing agent. Journal of Nuclear Materials, 2016, 480, 393-402.	1.3	18
56	Uranium(<scp>iii</scp>) and thorium(<scp>iv</scp>) alkyl complexes as potential starting materials. Chemical Communications, 2016, 52, 14373-14375.	2.2	16
57	Effect of Technetium-99 sources on its retention in low activity waste glass. Journal of Nuclear Materials, 2018, 503, 235-244.	1.3	15
58	Facile incorporation of technetium into magnetite, magnesioferrite, and hematite by formation of ferrous nitratein situ: precursors to iron oxide nuclear waste forms. Dalton Transactions, 2018, 47, 10229-10239.	1.6	15
59	Effect of Spinâ€“Orbit Coupling on Phonon-Mediated Magnetic Relaxation in a Series of Zero-Valent Vanadium, Niobium, and Tantalum Isocyanide Complexes. Inorganic Chemistry, 2021, 60, 18553-18560.	1.9	15
60	Synthesis and Utility of Neptunium(III) Hydrocarbyl Complex. Angewandte Chemie - International Edition, 2019, 58, 14891-14895.	7.2	14
61	Identification and Quantification of Technetium Species in Hanford Waste Tank AN-102. Analytical Chemistry, 2020, 92, 13961-13970.	3.2	14
62	Aqueous Synthesis of Technetium-Doped Titanium Dioxide by Direct Oxidation of Titanium Powder, a Precursor for Ceramic Nuclear Waste Forms. Chemistry of Materials, 2017, 29, 10369-10376.	3.2	12
63	Structure and properties of [(4,6-^tBu₂C₆H₂O)₂Se]₂An(THF)₂, An = U, Np, and their reaction with p-benzoquinone. Chemical Communications, 2018, 54, 10435-10438.	2.2	12
64	Electronic structure studies reveal 4f/5d mixing and its effect on bonding characteristics in Ce-imido and -oxo complexes. Chemical Science, 2022, 13, 1759-1773.	3.7	12
65	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
66	Spectroscopic Characterization of Aqua [fac-Tc(CO)₃]⁺ Complexes at High Ionic Strength. Inorganic Chemistry, 2018, 57, 6903-6912.	1.9	10
67	Synthesis of a heterobimetallic actinide nitride and an analysis of its bonding. Chemical Science, 2021, 12, 15519-15527.	3.7	9
68	f-Orbital Mixing in the Octahedral f² Compounds UX₆^{2â€“} [X = F, Br, Cl, I] and PrCl₆^{3â€“}. Journal of Physical Chemistry A, 2020, 124, 4253-4262.	1.1	7
69	Redox and volatility of Tc(CO)3+ compounds in waste glass melting. Journal of Nuclear Materials, 2019, 515, 199-205.	1.3	6
70	X-ray Absorption Fine Structure Studies of Speciation of Technetium in Borosilicate Glasses. Materials Research Society Symposia Proceedings, 2003, 802, 99.	0.1	5
71	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
72	Behavior of Technetium in Alkaline Solution: Identification of Non-Pertechnetate Species in High-Level Nuclear Waste Tanks at the Hanford Reservation. ACS Symposium Series, 2006, , 302-318.	0.5	4

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73	Isolation of a TMTAAâ€Based Radical in Uranium bisâ€TMTAA Complexes. Angewandte Chemie - International Edition, 2018, 57, 16136-16140.	7.2	4
74	Experimental evaluation of the stabilization of the COT orbitals by 4f orbitals in COT₂Ce using a Hubbard model. Dalton Transactions, 2021, 50, 2530-2535.	1.6	4
75	Reduction of CO₂ and CS₂ with Uranium(III) Metallocene Aryloxides. Organometallics, 2022, 41, 1579-1585.	1.1	4
76	Synthesis and Characterization of 5- and 6- Coordinated Alkali Pertechnetates. MRS Advances, 2017, 2, 525-542.	0.5	3
77	Strategies for the Photoreduction of Tcâ€99 Pertechnetate to Lowâ€Valent Tc by Keggin Polyoxometalates. European Journal of Inorganic Chemistry, 2020, 2020, 2133-2142.	1.0	3
78	Insights into Stabilization of the99TcVO Core for Synthesis of99TcVO Compounds. European Journal of Inorganic Chemistry, 2014, 2014, 1082-1089.	1.0	2
79	Isolation of a TMTAAâ€Based Radical in Uranium bisâ€TMTAA Complexes. Angewandte Chemie, 2018, 130, 16368-16372.	1.6	2
80	Synthesis and Characterization of Nonâ€Aqueous [Tc X Mâ€PW 11 O 39] n â€“ with M = O, N: Comparing Tc V and Tc VI in Metal Oxide Matrices. European Journal of Inorganic Chemistry, 2019, 2019, 4826-4834.	1.0	2
81	Proton affinities of pertechnetate (TcO₄^{â^’}) and perrhenate (ReO₄^{â^’}). Physical Chemistry Chemical Physics, 2020, 22, 12403-12411.	1.3	2
82	Tc and Re Behavior in Borosilicate Waste Glass Vapor Hydration Tests. Materials Research Society Symposia Proceedings, 2006, 985, 1.	0.1	1
83	Challenges and Solutions for Handling and Characterizing Alkali-Tc-Oxide Salts. MRS Advances, 2018, 3, 1191-1200.	0.5	1
84	Synthesis and Utility of Neptunium(III) Hydrocarbyl Complex. Angewandte Chemie, 2019, 131, 15033-15037.	1.6	1