Richard Mayes

List of Publications by Year in descending order

72 papers	7,905 citations	87723 38 h-index	85405 71 g-index
80 all docs	80 docs citations	80 times ranked	8858 citing authors

#	Article	IF	Citations
1	Carbon Materials for Chemical Capacitive Energy Storage. Advanced Materials, 2011, 23, 4828-4850.	11.1	2,593
2	Materials for the Recovery of Uranium from Seawater. Chemical Reviews, 2017, 117, 13935-14013.	23.0	639
3	Recovery of Uranium from Seawater: A Review of Current Status and Future Research Needs. Separation Science and Technology, 2013, 48, 367-387.	1.3	400
4	Mesoporous Carbon for Capacitive Deionization of Saline Water. Environmental Science & Technology, 2011, 45, 10243-10249.	4.6	351
5	Seawater Uranium Sorbents: Preparation from a Mesoporous Copolymer Initiator by Atomâ€Transfer Radical Polymerization. Angewandte Chemie - International Edition, 2013, 52, 13458-13462.	7.2	222
6	Lithiumâ€“Sulfur Batteries Based on Nitrogenâ€Doped Carbon and an Ionicâ€Liquid Electrolyte. ChemSusChem, 2012, 5, 2079-2085.	3.6	187
7	Uptake of Uranium from Seawater by Amidoxime-Based Polymeric Adsorbent: Field Experiments, Modeling, and Updated Economic Assessment. Industrial & Engineering Chemistry Research, 2014, 53, 6076-6083.	1.8	185
8	Hierarchical ordered mesoporous carbon from phloroglucinol-glyoxal and its application in capacitive deionization of brackish water. Journal of Materials Chemistry, 2010, 20, 8674.	6.7	169
9	Uranium recovery from seawater: development of fiber adsorbents prepared via atom-transfer radical polymerization. Journal of Materials Chemistry A, 2014, 2, 14674-14681.	5.2	138
10	Extracting Uranium from Seawater: Promising AF Series Adsorbents. Industrial & Engineering Chemistry Research, 2016, 55, 4110-4117.	1.8	136
11	Sonochemical functionalization of mesoporous carbon for uranium extraction from seawater. Journal of Materials Chemistry A, 2013, 1, 3016.	5.2	132
12	Uranium Adsorbent Fibers Prepared by Atom-Transfer Radical Polymerization (ATRP) from Poly(vinyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 Engineering Chemistry Research, 2016, 55, 4139-4148.	1.8	128
13	Nitrogen-enriched ordered mesoporous carbons through direct pyrolysis in ammonia with enhanced capacitive performance. Journal of Materials Chemistry A, 2013, 1, 7920.	5.2	120
14	XAFS investigation of polyamidoxime-bound uranyl contests the paradigm from small molecule studies. Energy and Environmental Science, 2016, 9, 448-453.	15.6	115
15	Extracting Uranium from Seawater: Promising AI Series Adsorbents. Industrial & Engineering Chemistry Research, 2016, 55, 4103-4109.	1.8	114
16	The Uranium from Seawater Program at the Pacific Northwest National Laboratory: Overview of Marine Testing, Adsorbent Characterization, Adsorbent Durability, Adsorbent Toxicity, and Deployment Studies. Industrial & Engineering Chemistry Research, 2016, 55, 4264-4277.	1.8	107
17	Low-Temperature Fluorination of Soft-Templated Mesoporous Carbons for a High-Power Lithium/Carbon Fluoride Battery. Chemistry of Materials, 2011, 23, 4420-4427.	3.2	102
18	Boron and nitrogen-rich carbons from ionic liquid precursors with tailorable surface properties. Physical Chemistry Chemical Physics, 2011, 13, 13486.	1.3	98

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19	â€œBrickâ€andâ€Mortarâ€•Selfâ€Assembly Approach to Graphitic Mesoporous Carbon Nanocomposites. Advanced Functional Materials, 2011, 21, 2208-2215.	7.8	98
20	Enhanced CO2/N2 selectivity in amidoxime-modified porous carbon. Carbon, 2014, 67, 457-464.	5.4	92
21	Seawater desalination by over-potential membrane capacitive deionization: Opportunities and hurdles. Chemical Engineering Journal, 2019, 357, 103-111.	6.6	90
22	Preparation and CO2 adsorption properties of soft-templated mesoporous carbons derived from chestnut tannin precursors. Microporous and Mesoporous Materials, 2016, 222, 94-103.	2.2	86
23	Siderophore-inspired chelator hijacks uranium from aqueous medium. Nature Communications, 2019, 10, 819.	5.8	84
24	Ionothermal carbonization of sugars in a protic ionic liquid under ambient conditions. Carbon, 2010, 48, 3364-3368.	5.4	74
25	Characterization of Uranium Uptake Kinetics from Seawater in Batch and Flow-Through Experiments. Industrial & Engineering Chemistry Research, 2013, 52, 9433-9440.	1.8	72
26	Elution of Uranium and Transition Metals from Amidoxime-Based Polymer Adsorbents for Sequestering Uranium from Seawater. Industrial & Engineering Chemistry Research, 2016, 55, 4313-4320.	1.8	65
27	Acidâ€Functionalized Mesoporous Carbon: An Efficient Support for Rutheniumâ€Catalyzed Î³â€Valerolactone Production. ChemSusChem, 2015, 8, 2520-2528.	3.6	58
28	A Poly(acrylonitrile)-Functionalized Porous Aromatic Framework Synthesized by Atom-Transfer Radical Polymerization for the Extraction of Uranium from Seawater. Industrial & Engineering Chemistry Research, 2016, 55, 4125-4129.	1.8	58
29	Enhancing Uranium Uptake by Amidoxime Adsorbent in Seawater: An Investigation for Optimum Alkaline Conditioning Parameters. Industrial & Engineering Chemistry Research, 2016, 55, 4294-4302.	1.8	58
30	Vacuum-Assisted Low-Temperature Synthesis of Reduced Graphene Oxide Thin-Film Electrodes for High-Performance Transparent and Flexible All-Solid-State Supercapacitors. ACS Applied Materials & Interfaces, 2018, 10, 11008-11017.	4.0	57
31	Transport of Ions in Mesoporous Carbon Electrodes during Capacitive Deionization of High-Salinity Solutions. Langmuir, 2015, 31, 1038-1047.	1.6	56
32	Characterization and Testing of Amidoxime-Based Adsorbent Materials to Extract Uranium from Natural Seawater. Industrial & Engineering Chemistry Research, 2016, 55, 4285-4293.	1.8	56
33	Alternative Alkaline Conditioning of Amidoxime Based Adsorbent for Uranium Extraction from Seawater. Industrial & Engineering Chemistry Research, 2016, 55, 4303-4312.	1.8	55
34	Enabling chloride salts for thermal energy storage: implications of salt purity. RSC Advances, 2019, 9, 25602-25608.	1.7	55
35	An efficient low-temperature route to nitrogen-doping and activation of mesoporous carbons for CO₂ capture. Chemical Communications, 2015, 51, 17261-17264.	2.2	47
36	Significantly increasing porosity of mesoporous carbon by NaNH2 activation for enhanced CO2 adsorption. Microporous and Mesoporous Materials, 2016, 230, 100-108.	2.2	47

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37	Polymer-coated nanoporous carbons for trace seawater uranium adsorption. Science China Chemistry, 2013, 56, 1510-1515.	4.2	44
38	Phosphorylated mesoporous carbon as effective catalyst for the selective fructose dehydration to HMF. Journal of Energy Chemistry, 2013, 22, 305-311.	7.1	44
39	Synthesis of Naphthalimidedioxime Ligand-Containing Fibers for Uranium Adsorption from Seawater. Industrial & Engineering Chemistry Research, 2016, 55, 4161-4169.	1.8	40
40	Investigations into the Reusability of Amidoxime-Based Polymeric Adsorbents for Seawater Uranium Extraction. Industrial & Engineering Chemistry Research, 2017, 56, 11603-11611.	1.8	38
41	Efficient Functionalization of Polyethylene Fibers for the Uranium Extraction from Seawater through Atom Transfer Radical Polymerization. Industrial & Engineering Chemistry Research, 2017, 56, 10826-10832.	1.8	36
42	Experiments and Modeling of Uranium Uptake by Amidoxime-Based Adsorbent in the Presence of Other Ions in Simulated Seawater. Industrial & Engineering Chemistry Research, 2016, 55, 4241-4248.	1.8	34
43	Insight into the Solid Electrolyte Interphase Formation in Bis(fluorosulfonyl)Imide Based Ionic Liquid Electrolytes. Advanced Functional Materials, 2021, 31, 2008708.	7.8	30
44	Macroporous monoliths for trace metal extraction from seawater. RSC Advances, 2015, 5, 50005-50010.	1.7	28
45	Amorphous and partially-amorphous metal coatings for corrosion resistance in molten chloride salt. Solar Energy Materials and Solar Cells, 2019, 201, 110028.	3.0	28
46	The electrochemical reactions of SnO2 with Li and Na: A study using thin films and mesoporous carbons. Journal of Power Sources, 2015, 284, 1-9.	4.0	27
47	Bicarbonate Elution of Uranium from Amidoximeâ€Based Polymer Adsorbents for Sequestering Uranium from Seawater. ChemistrySelect, 2017, 2, 3769-3774.	0.7	27
48	Phosphorylated mesoporous carbon as a solid acid catalyst. Physical Chemistry Chemical Physics, 2011, 13, 2492-2494.	1.3	26
49	Electrosorption of organic acids from aqueous bio-oil and conversion into hydrogen via microbial electrolysis cells. Renewable Energy, 2018, 125, 21-31.	4.3	25
50	Influence of temperature on the electrosorption of ions from aqueous solutions using mesoporous carbon materials. Separation and Purification Technology, 2013, 116, 206-213.	3.9	24
51	Fluorination of â€œbrick and mortarâ€•soft-templated graphitic ordered mesoporous carbons for high power lithium-ion battery. Journal of Materials Chemistry A, 2013, 1, 9414.	5.2	23
52	Acidity of the Poly(acrylamidoxime) Adsorbent in Aqueous Solution: Determination of the Proton Affinity Distribution via Potentiometric Titrations. Industrial & Engineering Chemistry Research, 2016, 55, 4217-4223.	1.8	23
53	Quantifying the binding strength of salicylaldoximeâ€“uranyl complexes relative to competing salicylaldoximeâ€“transition metal ion complexes in aqueous solution: a combined experimental and computational study. Dalton Transactions, 2016, 45, 9051-9064.	1.6	23
54	Reâ€establishing the paradigm for evaluating halide salt compatibility to study commercial chloride salts at 600Â°Câ€“800Â°C. Materials and Corrosion - Werkstoffe Und Korrosion, 2019, 70, 1439-1449.	0.8	23

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55	â€œOne-potâ€•synthesis of phosphorylated mesoporous carbon heterogeneous catalysts with tailored surface acidity. Catalysis Today, 2012, 186, 12-19.	2.2	22
56	Fabrication of a Pillared ZSM-5 Framework for Shape Selectivity of Ethane Dehydroaromatization. Industrial & Engineering Chemistry Research, 2019, 58, 7094-7106.	1.8	19
57	Impact of Pore Size on the Sorption of Uranyl under Seawater Conditions. Industrial & Engineering Chemistry Research, 2016, 55, 4339-4343.	1.8	18
58	Hierarchical TiO₂:Cu₂O Nanostructures for Gas/Vapor Sensing and CO₂ Sequestration. ACS Applied Materials & Interfaces, 2019, 11, 48466-48475.	4.0	18
59	Neutron imaging of ion transport in mesoporous carbon materials. Physical Chemistry Chemical Physics, 2013, 15, 11740.	1.3	17
60	Analysis and simulation of a blue energy cycle. Renewable Energy, 2016, 91, 249-260.	4.3	14
61	A report on emergent uranyl binding phenomena by an amidoxime phosphonic acid co-polymer. Physical Chemistry Chemical Physics, 2016, 18, 23462-23468.	1.3	13
62	Enhancement of electrosorption rates using low-amplitude, high-frequency, pulsed electrical potential. Separation and Purification Technology, 2014, 129, 18-24.	3.9	10
63	Thermal and radiation response of 4Hâ€“SiC Schottky diodes with direct-write electrical contacts. Applied Physics Letters, 2020, 116, .	1.5	9
64	Effect of the Ionic Liquid Structure on the Melt Processability of Polyacrylonitrile Fibers. ACS Applied Materials & Interfaces, 2020, 12, 8663-8673.	4.0	9
65	Strategies toward the Synthesis of Advanced Functional Sorbent Performance for Uranium Uptake from Seawater. Industrial & Engineering Chemistry Research, 2021, 60, 15037-15044.	1.8	9
66	The targeted synthesis of single site vanadyl species on the surface and in the framework of silicate building block materials. Catalysis Today, 2011, 160, 153-164.	2.2	8
67	Fibers with Hyperâ€Crosslinked Functional Porous Frameworks. Macromolecular Rapid Communications, 2018, 39, 1700767.	2.0	8
68	A non-micellar synthesis of mesoporous carbon via spinodal decomposition. RSC Advances, 2014, 4, 23703-23706.	1.7	4
69	Combination of DGA and LN Columns: A Versatile Option for Isotope Production and Purification at Oak Ridge National Laboratory. Solvent Extraction and Ion Exchange, 2021, 39, 166-183.	0.8	3
70	Chloride Salt Purification by Reaction With Thionyl Chloride Vapors to Remove Oxygen, Oxygenated Compounds, and Hydroxides. Frontiers in Chemical Engineering, 2022, 4, .	1.3	1
71	Solid Electrolyte Interphases: Insight into the Solid Electrolyte Interphase Formation in Bis(fluorosulfonyl)Imide Based Ionic Liquid Electrolytes (Adv. Funct. Mater. 23/2021). Advanced Functional Materials, 2021, 31, 2170163.	7.8	0
72	Advanced Polymer Sorbents: Performance for Lower V/U Adsorption in Natural Seawater. SSRN Electronic Journal, 0, , .	0.4	0