Shannon M Mahurin

List of Publications by Year
in descending order

83	6,408	109321 35	64796 79
papers	citations	h-index	g-index

94	94	94	9080
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Water desalination using nanoporous single-layer graphene. Nature Nanotechnology, 2015, 10, 459-464.	31.5	1,372
2	Dopamine as a Carbon Source: The Controlled Synthesis of Hollow Carbon Spheres and Yolkâ€Structured Carbon Nanocomposites. Angewandte Chemie - International Edition, 2011, 50, 6799-6802.	13.8	674
3	A Superacid-Catalyzed Synthesis of Porous Membranes Based on Triazine Frameworks for CO₂ Separation. Journal of the American Chemical Society, 2012, 134, 10478-10484.	13.7	408
4	Direct exfoliation of natural graphite into micrometre size few layers graphene sheets using ionic liquids. Chemical Communications, 2010, 46, 4487.	4.1	295
5	Porous Liquids: A Promising Class of Media for Gas Separation. Angewandte Chemie - International Edition, 2015, 54, 932-936.	13.8	191
6	Performance of nitrile-containing anions in task-specific ionic liquids for improved CO2/N2 separation. Journal of Membrane Science, 2010, 353, 177-183.	8.2	190
7	Solid-state synthesis of ordered mesoporous carbon catalysts via a mechanochemical assembly through coordination cross-linking. Nature Communications, 2017, 8, 15020.	12.8	164
8	Polymeric molecular sieve membranes via in situ cross-linking of non-porous polymer membrane templates. Nature Communications, 2014, 5, 3705.	12.8	143
9	New Class of Type III Porous Liquids: A Promising Platform for Rational Adjustment of Gas Sorption Behavior. ACS Applied Materials & Interfaces, 2018, 10, 32-36.	8.0	142
10	High CO2 solubility, permeability and selectivity in ionic liquids with the tetracyanoborate anion. RSC Advances, 2012, 2, 11813.	3.6	109
11	Ion-Gated Gas Separation through Porous Graphene. Nano Letters, 2017, 17, 1802-1807.	9.1	109
12	Guanidinium-Based Ionic Covalent Organic Framework for Rapid and Selective Removal of Toxic Cr(VI) Oxoanions from Water. Environmental Science & Technology, 2019, 53, 878-883.	10.0	101
13	Transforming Porous Organic Cages into Porous Ionic Liquids via a Supramolecular Complexation Strategy. Angewandte Chemie - International Edition, 2020, 59, 2268-2272.	13.8	101
14	Boron and nitrogen-rich carbons from ionic liquid precursors with tailorable surface properties. Physical Chemistry Chemical Physics, 2011, 13, 13486.	2.8	98
15	â€œBrickâ€andâ€Mortarâ€•Selfâ€Assembly Approach to Graphitic Mesoporous Carbon Nanocomposites. Advanced Functional Materials, 2011, 21, 2208-2215.	14.9	98
16	Efficient CO₂ Capture by Porous, Nitrogenâ€Doped Carbonaceous Adsorbents Derived from Taskâ€Specific Ionic Liquids. ChemSusChem, 2012, 5, 1912-1917.	6.8	92
17	Enhanced CO2/N2 selectivity in amidoxime-modified porous carbon. Carbon, 2014, 67, 457-464.	10.3	92
18	Porous liquid zeolites: hydrogen bonding-stabilized H-ZSM-5 in branched ionic liquids. Nanoscale, 2019, 11, 1515-1519.	5.6	82

#	Article	IF	Citations
19	Surpassing Robeson Upper Limit for CO2/N2 Separation with Fluorinated Carbon Molecular Sieve Membranes. CheM, 2020, 6, 631-645.	11.7	73
20	New Tricks for Old Molecules: Development and Application of Porous Nâ€doped, Carbonaceous Membranes for CO₂ Separation. Advanced Materials, 2013, 25, 4152-4158.	21.0	71
21	Use of atomic layer deposition to improve the stability of silver substrates for in situ, highâ€temperature SERS measurements. Journal of Raman Spectroscopy, 2010, 41, 4-11.	2.5	70
22	Ammonia-activated mesoporous carbon membranes for gas separations. Journal of Membrane Science, 2011, 368, 41-47.	8.2	63
23	Benzyl-Functionalized Room Temperature Ionic Liquids for CO₂/N₂ Separation. Industrial & Engineering Chemistry Research, 2011, 50, 14061-14069.	3.7	61
24	Electrostaticâ€Assisted Liquefaction of Porous Carbons. Angewandte Chemie - International Edition, 2017, 56, 14958-14962.	13.8	56
25	Computational Investigation of Reactive to Nonreactive Capture of Carbon Dioxide by Oxygen-Containing Lewis Bases. Journal of Physical Chemistry A, 2010, 114, 11761-11767.	2.5	51
26	Nitrogenâ€Enriched Carbons from Alkali Salts with High Coulombic Efficiency for Energy Storage Applications. Advanced Energy Materials, 2013, 3, 708-712.	19.5	51
27	Elucidating Ionic Correlations Beyond Simple Charge Alternation in Molten MgCl₂â€“KCl Mixtures. Journal of Physical Chemistry Letters, 2019, 10, 7603-7610.	4.6	49
28	Membraneâ€Based Gas Separation Accelerated by Hollow Nanosphere Architectures. Advanced Materials, 2017, 29, 1603797.	21.0	48
29	Preparation of free-standing high quality mesoporous carbon membranes. Carbon, 2010, 48, 557-560.	10.3	46
30	Synthesis of Porous, Nitrogenâ€Doped Adsorption/Diffusion Carbonaceous Membranes for Efficient CO₂ Separation. Macromolecular Rapid Communications, 2013, 34, 452-459.	3.9	46
31	Synthesis and Characterization of Thiazolium-Based Room Temperature Ionic Liquids for Gas Separations. Industrial & Engineering Chemistry Research, 2012, 51, 11530-11537.	3.7	44
32	Elimination of CO₂/N₂ Langmuir Sorption and Promotion of â€œN₂-Phobicityâ€•within High-T_g Glassy Membranes. Macromolecules, 2019, 52, 1589-1600.	4.8	43
33	Broadening the Gas Separation Utility of Monolayer Nanoporous Graphene Membranes by an Ionic Liquid Gating. Nano Letters, 2020, 20, 7995-8000.	9.1	39
34	Temperature Dependence of Short and Intermediate Range Order in Molten MgCl₂ and Its Mixture with KCl. Journal of Physical Chemistry B, 2020, 124, 2892-2899.	2.6	38
35	A Reusable Surface-Enhanced Raman Scattering (SERS) Substrate Prepared by Atomic Layer Deposition of Alumina on a Multi-Layer Gold and Silver Film. Applied Spectroscopy, 2011, 65, 417-422.	2.2	37
36	Probing microstructure and electrolyte concentration dependent cell chemistry via operando small angle neutron scattering. Energy and Environmental Science, 2019, 12, 1866-1877.	30.8	36

#	Article	IF	Citations
37	Formation of three-dimensional bicontinuous structures via molten salt dealloying studied in real-time by in situ synchrotron X-ray nano-tomography. Nature Communications, 2021, 12, 3441.	12.8	36
38	Ring-opened heterocycles: Promising ionic liquids for gas separation and capture. Journal of Membrane Science, 2012, 401-402, 61-67.	8.2	33
39	Formation of Oriented Nanostructures from Single Molecules of Conjugated Polymers in Microdroplets of Solution:Â The Role of Solvent. Macromolecules, 2004, 37, 6132-6140.	4.8	32
40	â€œBrick-and-mortarâ€•synthesis of free-standing mesoporous carbon nanocomposite membranes as supports of room temperature ionic liquids for CO2â^'N2 separation. Journal of Membrane Science, 2014, 468, 73-80.	8.2	32
41	Electrostaticâ€Assisted Liquefaction of Porous Carbons. Angewandte Chemie, 2017, 129, 15154-15158.	2.0	32
42	Robust and Elastic Polymer Membranes with Tunable Properties for Gas Separation. ACS Applied Materials & Interfaces, 2017, 9, 26483-26491.	8.0	32
43	Surpassing the Organic Cathode Performance for Lithium-Ion Batteries with Robust Fluorinated Covalent Quinazoline Networks. ACS Energy Letters, 2021, 6, 41-51.	17.4	32
44	Impact of tuning CO2-philicity in polydimethylsiloxane-based membranes for carbon dioxide separation. Journal of Membrane Science, 2017, 530, 213-219.	8.2	31
45	A new family of fluidic precursors for the self-templated synthesis of hierarchical nanoporous carbons. Chemical Communications, 2013, 49, 7289.	4.1	29
46	Effect of alkyl and aryl substitutions on 1,2,4-triazolium-based ionic liquids for carbon dioxide separation and capture. RSC Advances, 2013, 3, 3981.	3.6	29
47	Gas separation mechanism of CO₂ selective amidoxime-poly(1-trimethylsilyl-1-propyne) membranes. Polymer Chemistry, 2017, 8, 3341-3350.	3.9	25
48	Supported bicyclic amidine ionic liquids as a potential CO2/N2 separation medium. Journal of Membrane Science, 2018, 565, 203-212.	8.2	24
49	Connections between the Speciation and Solubility of Ni(II) and Co(II) in Molten ZnCl₂. Journal of Physical Chemistry B, 2020, 124, 1253-1258.	2.6	24
50	FTIR investigation of the interfacial properties and mechanisms of CO2 sorption in porous ionic liquids. Green Chemical Engineering, 2021, 2, 392-401.	6.3	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.	10.3	23
52	Unraveling Local Structure of Molten Salts via X-ray Scattering, Raman Spectroscopy, and Ab Initio Molecular Dynamics. Journal of Physical Chemistry B, 2021, 125, 5971-5982.	2.6	23
53	â€œOne-potâ€•synthesis of phosphorylated mesoporous carbon heterogeneous catalysts with tailored surface acidity. Catalysis Today, 2012, 186, 12-19.	4.4	22
54	Structure and dynamics of the molten alkali-chloride salts from an X-ray, simulation, and rate theory perspective. Physical Chemistry Chemical Physics, 2020, 22, 22900-22917.	2.8	22

#	Article	IF	Citations
55	Investigating corrosion behavior of Ni and Ni-20Cr in molten ZnCl2. Corrosion Science, 2021, 179, 109105.	6.6	22
56	Directed Synthesis of Nanoporous Carbons from Taskâ€Specific Ionic Liquid Precursors for the Adsorption of CO₂. ChemSusChem, 2014, 7, 3284-3289.	6.8	21
57	Effect of Crossâ€Link Density on Carbon Dioxide Separation in Polydimethylsiloxaneâ€Norbornene Membranes. ChemSusChem, 2015, 8, 3595-3604.	6.8	21
58	Porous Structure Design of Polymeric Membranes for Gas Separation. Small Methods, 2017, 1, 1600051.	8.6	21
59	Transforming Porous Organic Cages into Porous Ionic Liquids via a Supramolecular Complexation Strategy. Angewandte Chemie, 2020, 132, 2288-2292.	2.0	21
60	Tailored CO₂-philic Gas Separation Membranes via One-Pot Thiolâ€“ene Chemistry. Macromolecules, 2019, 52, 5819-5828.	4.8	20
61	Revealing 3D Morphological and Chemical Evolution Mechanisms of Metals in Molten Salt by Multimodal Microscopy. ACS Applied Materials & Interfaces, 2020, 12, 17321-17333.	8.0	20
62	Visualizing time-dependent microstructural and chemical evolution during molten salt corrosion of Ni-20Cr model alloy using correlative quasi in situ TEM and in situ synchrotron X-ray nano-tomography. Corrosion Science, 2022, 195, 109962.	6.6	19
63	Probing the interaction of ionic liquids with graphene using surfaceâ€enhanced Raman spectroscopy. Journal of Raman Spectroscopy, 2016, 47, 585-590.	2.5	18
64	Alcohol-Induced Low-Temperature Blockage of Supported-Metal Catalysts for Enhanced Catalysis. ACS Catalysis, 2020, 10, 8515-8523.	11.2	18
65	Design of Graphene/Ionic Liquid Composites for Carbon Capture. ACS Applied Materials & Interfaces, 2021, 13, 17511-17516.	8.0	17
66	Microporous and hollow carbon spheres derived from soft drinks: Promising CO2 separation materials. Microporous and Mesoporous Materials, 2019, 286, 199-206.	4.4	15
67	Ion-gated carbon molecular sieve gas separation membranes. Journal of Membrane Science, 2020, 604, 118013.	8.2	15
68	Determining oxidation states of transition metals in molten salt corrosion using electron energy loss spectroscopy. Scripta Materialia, 2021, 197, 113790.	5.2	15
69	Polymer-Grafted Porous Silica Nanoparticles with Enhanced CO₂ Permeability and Mechanical Performance. ACS Applied Materials & Interfaces, 2021, 13, 27411-27418.	8.0	14
70	Radiation-Assisted Formation of Metal Nanoparticles in Molten Salts. Journal of Physical Chemistry Letters, 2021, 12, 157-164.	4.6	14
71	X-ray scattering reveals ion clustering of dilute chromium species in molten chloride medium. Chemical Science, 2021, 12, 8026-8035.	7.4	13
72	Bifunctional Ionic Covalent Organic Networks for Enhanced Simultaneous Removal of Chromium(VI) and Arsenic(V) Oxoanions via Synergetic Ion Exchange and Redox Process. Small, 2021, 17, e2104703.	10.0	13

#	Article	IF	Citations
73	Ionic liquids for carbon capture. MRS Bulletin, 2022, 47, 395-404.	3.5	11
74	Improving Gas Selectivity in Membranes Using Polymer-Grafted Silica Nanoparticles. ACS Applied Nano Materials, 2021, 4, 5895-5903.	5.0	10
75	Molecular dynamics simulations of a dicationic ionic liquid for CO2 capture. Journal of Molecular Liquids, 2021, 335, 116163.	4.9	7
76	Synthesis of Poly(ionic Liquid)s-block-poly(methyl Methacrylate) Copolymer-Grafted Silica Particle Brushes with Enhanced CO₂ Permeability and Mechanical Performance. Langmuir, 2021, 37, 10875-10881.	3.5	7
77	Synthesis and Characterization of Macrocyclic Ionic Liquids for CO₂ Separation. Industrial & Engineering Chemistry Research, 2021, 60, 8218-8226.	3.7	6
78	Benchmark CO2 separation achieved by highly fluorinated nanoporous molecular sieve membranes from nonporous precursor via in situ cross-linking. Journal of Membrane Science, 2021, 638, 119698.	8.2	6
79	Guanidinium-Based Ionic Covalent-Organic Nanosheets for Sequestration of Cr(VI) and As(V) Oxoanions in Water. ACS Applied Nano Materials, 2021, 4, 13319-13328.	5.0	6
80	H₂O-prompted CO₂ capture on metal silicates in situ generated from SBA-15. RSC Advances, 2020, 10, 28731-28740.	3.6	3
81	Carbon Membranes: New Tricks for Old Molecules: Development and Application of Porous Nâ€doped, Carbonaceous Membranes for CO₂ Separation (Adv. Mater. 30/2013). Advanced Materials, 2013, 25, 4200-4200.	21.0	0
82	InnenrÃ¼cktitelbild: Porous Liquids: A Promising Class of Media for Gas Separation (Angew. Chem.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	2.0	0
83	Focusing on Student Learning: Efforts at Multiple Levels. ACS Symposium Series, 2020, , 69-85.	0.5	0