

Shannon M Mahurin

List of Publications by Year in descending order

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83
papers

6,408
citations

109137

35
h-index

64668

79
g-index

94
all docs

94
docs citations

94
times ranked

9080
citing authors

#	ARTICLE	IF	CITATIONS
1	Water desalination using nanoporous single-layer graphene. <i>Nature Nanotechnology</i> , 2015, 10, 459-464.	15.6	1,372
2	Dopamine as a Carbon Source: The Controlled Synthesis of Hollow Carbon Spheres and Yolk-Shell Structured Carbon Nanocomposites. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 6799-6802.	7.2	674
3	A Superacid-Catalyzed Synthesis of Porous Membranes Based on Triazine Frameworks for CO ₂ Separation. <i>Journal of the American Chemical Society</i> , 2012, 134, 10478-10484.	6.6	408
4	Direct exfoliation of natural graphite into micrometre size few layers graphene sheets using ionic liquids. <i>Chemical Communications</i> , 2010, 46, 4487.	2.2	295
5	Porous Liquids: A Promising Class of Media for Gas Separation. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 932-936.	7.2	191
6	Performance of nitrile-containing anions in task-specific ionic liquids for improved CO ₂ /N ₂ separation. <i>Journal of Membrane Science</i> , 2010, 353, 177-183.	4.1	190
7	Solid-state synthesis of ordered mesoporous carbon catalysts via a mechanochemical assembly through coordination cross-linking. <i>Nature Communications</i> , 2017, 8, 15020.	5.8	164
8	Polymeric molecular sieve membranes via in situ cross-linking of non-porous polymer membrane templates. <i>Nature Communications</i> , 2014, 5, 3705.	5.8	143
9	New Class of Type III Porous Liquids: A Promising Platform for Rational Adjustment of Gas Sorption Behavior. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 32-36.	4.0	142
10	High CO ₂ solubility, permeability and selectivity in ionic liquids with the tetracyanoborate anion. <i>RSC Advances</i> , 2012, 2, 11813.	1.7	109
11	Ion-Gated Gas Separation through Porous Graphene. <i>Nano Letters</i> , 2017, 17, 1802-1807.	4.5	109
12	Guanidinium-Based Ionic Covalent Organic Framework for Rapid and Selective Removal of Toxic Cr(VI) Oxoanions from Water. <i>Environmental Science & Technology</i> , 2019, 53, 878-883.	4.6	101
13	Transforming Porous Organic Cages into Porous Ionic Liquids via a Supramolecular Complexation Strategy. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 2268-2272.	7.2	101
14	Boron and nitrogen-rich carbons from ionic liquid precursors with tailorable surface properties. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 13486.	1.3	98
15	"Brick-and-Mortar"-Self-Assembly Approach to Graphitic Mesoporous Carbon Nanocomposites. <i>Advanced Functional Materials</i> , 2011, 21, 2208-2215.	7.8	98
16	Efficient CO ₂ Capture by Porous, Nitrogen-Doped Carbonaceous Adsorbents Derived from Task-Specific Ionic Liquids. <i>ChemSusChem</i> , 2012, 5, 1912-1917.	3.6	92
17	Enhanced CO ₂ /N ₂ selectivity in amidoxime-modified porous carbon. <i>Carbon</i> , 2014, 67, 457-464.	5.4	92
18	Porous liquid zeolites: hydrogen bonding-stabilized H-ZSM-5 in branched ionic liquids. <i>Nanoscale</i> , 2019, 11, 1515-1519.	2.8	82

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19	Surpassing Robeson Upper Limit for CO ₂ /N ₂ Separation with Fluorinated Carbon Molecular Sieve Membranes. <i>Chem</i> , 2020, 6, 631-645.	5.8	73
20	New Tricks for Old Molecules: Development and Application of Porous N-doped, Carbonaceous Membranes for CO ₂ Separation. <i>Advanced Materials</i> , 2013, 25, 4152-4158.	11.1	71
21	Use of atomic layer deposition to improve the stability of silver substrates for <i>in situ</i> , high-temperature SERS measurements. <i>Journal of Raman Spectroscopy</i> , 2010, 41, 4-11.	1.2	70
22	Ammonia-activated mesoporous carbon membranes for gas separations. <i>Journal of Membrane Science</i> , 2011, 368, 41-47.	4.1	63
23	Benzyl-Functionalized Room Temperature Ionic Liquids for CO ₂ /N ₂ Separation. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 14061-14069.	1.8	61
24	Electrostatic-Assisted Liquefaction of Porous Carbons. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 14958-14962.	7.2	56
25	Computational Investigation of Reactive to Nonreactive Capture of Carbon Dioxide by Oxygen-Containing Lewis Bases. <i>Journal of Physical Chemistry A</i> , 2010, 114, 11761-11767.	1.1	51
26	Nitrogen-Enriched Carbons from Alkali Salts with High Coulombic Efficiency for Energy Storage Applications. <i>Advanced Energy Materials</i> , 2013, 3, 708-712.	10.2	51
27	Elucidating Ionic Correlations Beyond Simple Charge Alternation in Molten MgCl ₂ -KCl Mixtures. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 7603-7610.	2.1	49
28	Membrane-Based Gas Separation Accelerated by Hollow Nanosphere Architectures. <i>Advanced Materials</i> , 2017, 29, 1603797.	11.1	48
29	Preparation of free-standing high quality mesoporous carbon membranes. <i>Carbon</i> , 2010, 48, 557-560.	5.4	46
30	Synthesis of Porous, Nitrogen-Doped Adsorption/Diffusion Carbonaceous Membranes for Efficient CO ₂ Separation. <i>Macromolecular Rapid Communications</i> , 2013, 34, 452-459.	2.0	46
31	Synthesis and Characterization of Thiazolium-Based Room Temperature Ionic Liquids for Gas Separations. <i>Industrial & Engineering Chemistry Research</i> , 2012, 51, 11530-11537.	1.8	44
32	Elimination of CO ₂ /N ₂ Langmuir Sorption and Promotion of α -N ₂ -Phobicity within High-T _g Glassy Membranes. <i>Macromolecules</i> , 2019, 52, 1589-1600.	2.2	43
33	Broadening the Gas Separation Utility of Monolayer Nanoporous Graphene Membranes by an Ionic Liquid Gating. <i>Nano Letters</i> , 2020, 20, 7995-8000.	4.5	39
34	Temperature Dependence of Short and Intermediate Range Order in Molten MgCl ₂ and Its Mixture with KCl. <i>Journal of Physical Chemistry B</i> , 2020, 124, 2892-2899.	1.2	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. <i>Applied Spectroscopy</i> , 2011, 65, 417-422.	1.2	37
36	Probing microstructure and electrolyte concentration dependent cell chemistry <i>via operando</i> small angle neutron scattering. <i>Energy and Environmental Science</i> , 2019, 12, 1866-1877.	15.6	36

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37	Formation of three-dimensional bicontinuous structures via molten salt dealloying studied in real-time by in situ synchrotron X-ray nano-tomography. <i>Nature Communications</i> , 2021, 12, 3441.	5.8	36
38	Ring-opened heterocycles: Promising ionic liquids for gas separation and capture. <i>Journal of Membrane Science</i> , 2012, 401-402, 61-67.	4.1	33
39	Formation of Oriented Nanostructures from Single Molecules of Conjugated Polymers in Microdroplets of Solution: The Role of Solvent. <i>Macromolecules</i> , 2004, 37, 6132-6140.	2.2	32
40	Brick-and-mortar-synthesis of free-standing mesoporous carbon nanocomposite membranes as supports of room temperature ionic liquids for CO ₂ /N ₂ separation. <i>Journal of Membrane Science</i> , 2014, 468, 73-80.	4.1	32
41	Electrostatic-Assisted Liquefaction of Porous Carbons. <i>Angewandte Chemie</i> , 2017, 129, 15154-15158.	1.6	32
42	Robust and Elastic Polymer Membranes with Tunable Properties for Gas Separation. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 26483-26491.	4.0	32
43	Surpassing the Organic Cathode Performance for Lithium-Ion Batteries with Robust Fluorinated Covalent Quinazoline Networks. <i>ACS Energy Letters</i> , 2021, 6, 41-51.	8.8	32
44	Impact of tuning CO ₂ -philicity in polydimethylsiloxane-based membranes for carbon dioxide separation. <i>Journal of Membrane Science</i> , 2017, 530, 213-219.	4.1	31
45	A new family of fluidic precursors for the self-templated synthesis of hierarchical nanoporous carbons. <i>Chemical Communications</i> , 2013, 49, 7289.	2.2	29
46	Effect of alkyl and aryl substitutions on 1,2,4-triazolium-based ionic liquids for carbon dioxide separation and capture. <i>RSC Advances</i> , 2013, 3, 3981.	1.7	29
47	Gas separation mechanism of CO ₂ selective amidoxime-poly(1-trimethylsilyl-1-propyne) membranes. <i>Polymer Chemistry</i> , 2017, 8, 3341-3350.	1.9	25
48	Supported bicyclic amidine ionic liquids as a potential CO ₂ /N ₂ separation medium. <i>Journal of Membrane Science</i> , 2018, 565, 203-212.	4.1	24
49	Connections between the Speciation and Solubility of Ni(II) and Co(II) in Molten ZnCl ₂ . <i>Journal of Physical Chemistry B</i> , 2020, 124, 1253-1258.	1.2	24
50	FTIR investigation of the interfacial properties and mechanisms of CO ₂ sorption in porous ionic liquids. <i>Green Chemical Engineering</i> , 2021, 2, 392-401.	3.3	24
51	Fluorination of brick and mortar-soft-templated graphitic ordered mesoporous carbons for high power lithium-ion battery. <i>Journal of Materials Chemistry A</i> , 2013, 1, 9414.	5.2	23
52	Unraveling Local Structure of Molten Salts via X-ray Scattering, Raman Spectroscopy, and Ab Initio Molecular Dynamics. <i>Journal of Physical Chemistry B</i> , 2021, 125, 5971-5982.	1.2	23
53	One-pot-synthesis of phosphorylated mesoporous carbon heterogeneous catalysts with tailored surface acidity. <i>Catalysis Today</i> , 2012, 186, 12-19.	2.2	22
54	Structure and dynamics of the molten alkali-chloride salts from an X-ray, simulation, and rate theory perspective. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 22900-22917.	1.3	22

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55	Investigating corrosion behavior of Ni and Ni-20Cr in molten ZnCl ₂ . <i>Corrosion Science</i> , 2021, 179, 109105.	3.0	22
56	Directed Synthesis of Nanoporous Carbons from Task-Specific Ionic Liquid Precursors for the Adsorption of CO ₂ . <i>ChemSusChem</i> , 2014, 7, 3284-3289.	3.6	21
57	Effect of Cross-Link Density on Carbon Dioxide Separation in Polydimethylsiloxane-Norbornene Membranes. <i>ChemSusChem</i> , 2015, 8, 3595-3604.	3.6	21
58	Porous Structure Design of Polymeric Membranes for Gas Separation. <i>Small Methods</i> , 2017, 1, 1600051.	4.6	21
59	Transforming Porous Organic Cages into Porous Ionic Liquids via a Supramolecular Complexation Strategy. <i>Angewandte Chemie</i> , 2020, 132, 2288-2292.	1.6	21
60	Tailored CO ₂ -philic Gas Separation Membranes via One-Pot Thiol-ene Chemistry. <i>Macromolecules</i> , 2019, 52, 5819-5828.	2.2	20
61	Revealing 3D Morphological and Chemical Evolution Mechanisms of Metals in Molten Salt by Multimodal Microscopy. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 17321-17333.	4.0	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. <i>Corrosion Science</i> , 2022, 195, 109962.	3.0	19
63	Probing the interaction of ionic liquids with graphene using surface-enhanced Raman spectroscopy. <i>Journal of Raman Spectroscopy</i> , 2016, 47, 585-590.	1.2	18
64	Alcohol-Induced Low-Temperature Blockage of Supported-Metal Catalysts for Enhanced Catalysis. <i>ACS Catalysis</i> , 2020, 10, 8515-8523.	5.5	18
65	Design of Graphene/Ionic Liquid Composites for Carbon Capture. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 17511-17516.	4.0	17
66	Microporous and hollow carbon spheres derived from soft drinks: Promising CO ₂ separation materials. <i>Microporous and Mesoporous Materials</i> , 2019, 286, 199-206.	2.2	15
67	Ion-gated carbon molecular sieve gas separation membranes. <i>Journal of Membrane Science</i> , 2020, 604, 118013.	4.1	15
68	Determining oxidation states of transition metals in molten salt corrosion using electron energy loss spectroscopy. <i>Scripta Materialia</i> , 2021, 197, 113790.	2.6	15
69	Polymer-Grafted Porous Silica Nanoparticles with Enhanced CO ₂ Permeability and Mechanical Performance. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 27411-27418.	4.0	14
70	Radiation-Assisted Formation of Metal Nanoparticles in Molten Salts. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 157-164.	2.1	14
71	X-ray scattering reveals ion clustering of dilute chromium species in molten chloride medium. <i>Chemical Science</i> , 2021, 12, 8026-8035.	3.7	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. <i>Small</i> , 2021, 17, e2104703.	5.2	13

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73	Ionic liquids for carbon capture. MRS Bulletin, 2022, 47, 395-404.	1.7	11
74	Improving Gas Selectivity in Membranes Using Polymer-Grafted Silica Nanoparticles. ACS Applied Nano Materials, 2021, 4, 5895-5903.	2.4	10
75	Molecular dynamics simulations of a dicationic ionic liquid for CO ₂ capture. Journal of Molecular Liquids, 2021, 335, 116163.	2.3	7
76	Synthesis of Poly(ionic Liquid)- <i>block</i> -poly(methyl Methacrylate) Copolymer-Grafted Silica Particle Brushes with Enhanced CO ₂ Permeability and Mechanical Performance. Langmuir, 2021, 37, 10875-10881.	1.6	7
77	Synthesis and Characterization of Macrocyclic Ionic Liquids for CO ₂ Separation. Industrial & Engineering Chemistry Research, 2021, 60, 8218-8226.	1.8	6
78	Benchmark CO ₂ separation achieved by highly fluorinated nanoporous molecular sieve membranes from nonporous precursor via in situ cross-linking. Journal of Membrane Science, 2021, 638, 119698.	4.1	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.	2.4	6
80	H ₂ O-prompted CO ₂ capture on metal silicates <i>in situ</i> generated from SBA-15. RSC Advances, 2020, 10, 28731-28740.	1.7	3
81	Carbon Membranes: New Tricks for Old Molecules: Development and Application of Porous N-doped, Carbonaceous Membranes for CO ₂ Separation (Adv. Mater. 30/2013). Advanced Materials, 2013, 25, 4200-4200.	11.1	0
82	Innenrücktitelbild: Porous Liquids: A Promising Class of Media for Gas Separation (Angew. Chem.) Tj ETQq0 0 0 rgBT /Overlück 10 Tf 5	1.6	0
83	Focusing on Student Learning: Efforts at Multiple Levels. ACS Symposium Series, 2020, , 69-85.	0.5	0