Jason E Bara

List of Publications by Citations

130 papers	6,528 citations	36 h-index	79 g-index
137 ext. papers	7,130 ext. citations	4.7 avg, IF	6.05 L-index

#	Paper	IF	Citations
130	Guide to CO2 Separations in Imidazolium-Based Room-Temperature Ionic Liquids. *Industrial & Engineering Chemistry Research*, **2009**, 48, 2739-2751	3.9	618
129	Room-temperature ionic liquids and composite materials: platform technologies for CO(2) capture. *Accounts of Chemical Research*, **2010**, 43, 152-9	24.3	519
128	Room-Temperature Ionic Liquid□Amine Solutions: Tunable Solvents for Efficient and Reversible Capture of CO2. *Industrial & Engineering Chemistry Research*, **2008**, 47, 8496-8498	3.9	378
127	Synthesis and Performance of Polymerizable Room-Temperature Ionic Liquids as Gas Separation Membranes. *Industrial & Engineering Chemistry Research*, **2007**, 46, 5397-5404	3.9	344
126	Room-Temperature Ionic Liquids:□Temperature Dependence of Gas Solubility Selectivity. *Industrial & Engineering Chemistry Research*, **2008**, 47, 3453-3459	3.9	292
125	Improving CO2 selectivity in polymerized room-temperature ionic liquid gas separation membranes through incorporation of polar substituents. *Journal of Membrane Science*, **2008**, 321, 3-7	9.6	210
124	Enhanced CO2Separation Selectivity in Oligo(ethylene glycol) Functionalized Room-Temperature Ionic Liquids. *Industrial & Engineering Chemistry Research*, **2007**, 46, 5380-5386	3.9	204
123	Bulk-Fluid Solubility and Membrane Feasibility of Rmim-Based Room-Temperature Ionic Liquids. *Industrial & Engineering Chemistry Research*, **2006**, 45, 6279-6283	3.9	203
122	Improving CO2 permeability in polymerized room-temperature ionic liquid gas separation membranes through the formation of a solid composite with a room-temperature ionic liquid. *Polymers for Advanced Technologies*, **2008**, 19, 1415-1420	3.2	202
121	Gas separations in fluoroalkyl-functionalized room-temperature ionic liquids using supported liquid membranes. *Chemical Engineering Journal*, **2009**, 147, 43-50	14.7	190
120	Free Volume as the Basis of Gas Solubility and Selectivity in Imidazolium-Based Ionic Liquids. *Industrial & Engineering Chemistry Research*, **2012**, 51, 5565-5576	3.9	183
119	Ideal gas solubilities and solubility selectivities in a binary mixture of room-temperature ionic liquids. *Journal of Physical Chemistry B*, **2008**, 112, 2335-9	3.4	155
118	Interpretation of CO2 Solubility and Selectivity in Nitrile-Functionalized Room-Temperature Ionic Liquids Using a Group Contribution Approach. *Industrial & Engineering Chemistry Research*, **2008**, 47, 7005-7012	3.9	154
117	Effect of Anion on Gas Separation Performance of Polymer□Room-Temperature Ionic Liquid Composite Membranes. *Industrial & Engineering Chemistry Research*, **2008**, 47, 9919-9924	3.9	136
116	A three-component mixed-matrix membrane with enhanced CO2 separation properties based on zeolites and ionic liquid materials. *Journal of Membrane Science*, **2010**, 350, 117-123	9.6	135
115	Synthesis and light gas separations in cross-linked gemini room temperature ionic liquid polymer membranes. *Journal of Membrane Science*, **2008**, 316, 186-191	9.6	133
114	Main-chain imidazolium polymer membranes for CO2 separations: An initial study of a new ionic liquid-inspired platform. *Journal of Membrane Science*, **2010**, 359, 37-43	9.6	123

113	A comparison of ether- and alkyl-derivatized imidazolium-based room-temperature ionic liquids: a molecular dynamics simulation study. *Physical Chemistry Chemical Physics*, **2008**, 10, 6301-12	3.6	117
112	Effect of Free Cation Substituent on Gas Separation Performance of Polymer Room-Temperature Ionic Liquid Composite Membranes. *Industrial & Engineering Chemistry Research*, **2009**, 48, 4607-4610	3.9	113
111	Physically Gelled Ionic Liquids: Solid Membrane Materials with Liquidlike CO2 Gas Transport. *Chemistry of Materials*, **2009**, 21, 3027-3029	9.6	109
110	Properties of Alkylimidazoles as Solvents for CO2 Capture and Comparisons to Imidazolium-Based Ionic Liquids. *Industrial & Engineering Chemistry Research*, **2011**, 50, 8665-8677	3.9	95
109	Polymerized Lyotropic Liquid Crystal Assemblies for Membrane Applications. *Macromolecular Rapid Communications*, **2008**, 29, 367-389	4.8	95
108	Reactive and Reversible Ionic Liquids for CO2 Capture and Acid Gas Removal. *Separation Science and Technology*, **2012**, 47, 178-188	2.5	89
107	Ionic Polyimides: Hybrid Polymer Architectures and Composites with Ionic Liquids for Advanced Gas Separation Membranes. *Industrial & Engineering Chemistry Research*, **2017**, 56, 5055-5069	3.9	70
106	How do polymerized room-temperature ionic liquid membranes plasticize during high pressure CO2 permeation?. *Journal of Membrane Science*, **2010**, 360, 202-209	9.6	68
105	New protein-resistant coatings for water filtration membranes based on quaternary ammonium and phosphonium polymers. *Journal of Membrane Science*, **2009**, 330, 104-116	9.6	58
104	Chemical and Physical Absorption of SO2 by N-Functionalized Imidazoles: Experimental Results and Molecular-level Insight. *Industrial & Engineering Chemistry Research*, **2015**, 54, 462-471	3.9	54
103	Synthesis and gas separation properties of poly(ionic liquid)-ionic liquid composite membranes containing a copper salt. *Journal of Membrane Science*, **2016**, 515, 109-114	9.6	52
102	Versatile and Scalable Method for Producing N-Functionalized Imidazoles. *Industrial & Engineering Chemistry Research*, **2011**, 50, 13614-13619	3.9	51
101	Functional Lyotropic Liquid Crystal Materials **2007**, 181-222		49
100	Evaluation of Alkylimidazoles as Physical Solvents for CO2/CH4 Separation. *Industrial & Engineering Chemistry Research*, **2012**, 51, 515-522	3.9	48
99	Influence of nanostructure on light gas separations in cross-linked lyotropic liquid crystal membranes. *Journal of Membrane Science*, **2007**, 288, 13-19	9.6	48
98	Thermotropic liquid crystal behaviour of gemini imidazolium-based ionic amphiphiles. *Liquid Crystals*, **2010**, 37, 1587-1599	2.3	46
97	A comparison of fluoroalkyl-derivatized imidazolium:TFSI and alkyl-derivatized imidazolium:TFSI ionic liquids: a molecular dynamics simulation study. *Physical Chemistry Chemical Physics*, **2010**, 12, 7064-76	3.6	44
96	What chemicals will we need to capture CO2? **2012**, 2, 162-171		41

95	Correlating fractional free volume to CO2 selectivity in [Rmim][Tf2N] ionic liquids. *Journal of Chemical Thermodynamics*, **2014**, 77, 190-196	2.9	39
94	Poly(ionic liquid) superabsorbent for polar organic solvents. *ACS Applied Materials & Interfaces*, **2015**, 7, 8979-83	9.5	36
93	Perspectives on supercapacitors, pseudocapacitors and batteries. *Nanomaterials and Energy*, **2012**, 1, 136-158	1.1	35
92	Properties and Performance of Ether-Functionalized Imidazoles as Physical Solvents for CO2Separations. *Energy & Fuels*, **2013**, 27, 3349-3357	4.1	34
91	Molecular Simulation of Ionic Polyimides and Composites with Ionic Liquids as Gas-Separation Membranes. *Langmuir*, **2017**, 33, 11377-11389	4	31
90	Molecular simulation of the thermophysical properties of N-functionalized alkylimidazoles. *Journal of Physical Chemistry B*, **2012**, 116, 6529-35	3.4	26
89	Recent Advances in the Design of Ionenes: Toward Convergence with High-Performance Polymers. *Macromolecular Chemistry and Physics*, **2019**, 220, 1900078	2.6	25
88	Polyamide- and polycarbonate-based nanocomposites prepared from thermally stable imidazolium organoclay. *Polymer*, **2009**, 50, 2492-2502	3.9	25
87	3D Printed Block Copolymer Nanostructures. *Journal of Chemical Education*, **2015**, 92, 1866-1870	2.4	24
86	Synthesis and Performance of 6FDA-Based Polyimide-Ionenes and Composites with Ionic Liquids as Gas Separation Membranes. *Membranes*, **2019**, 9,	3.8	24
85	Electrostatic potential within the free volume space of imidazole-based solvents: insights into gas absorption selectivity. *Journal of Physical Chemistry B*, **2014**, 118, 255-64	3.4	24
84	Properties of alkylbenzimidazoles for CO2 and SO2 capture and comparisons to ionic liquids. *Science China Chemistry*, **2012**, 55, 1638-1647	7.9	24
83	Programmatic conversion of crystal structures into 3D printable files using Jmol. *Journal of Cheminformatics*, **2016**, 8, 66	8.6	23
82	Molecular analysis of selective gas adsorption within composites of ionic polyimides and ionic liquids as gas separation membranes. *Chemical Physics*, **2019**, 516, 71-83	2.3	22
81	Self-healing imidazolium-based ionene-polyamide membranes: an experimental study on physical and gas transport properties. *Polymer International*, **2019**, 68, 1123-1129	3.3	21
80	Effect of branched and cycloalkyl functionalities on CO2 separation performance of poly(IL) membranes. *Separation and Purification Technology*, **2015**, 155, 89-95	8.3	21
79	Sustainable Novel Bamboo-Based Membranes for Water Treatment Fabricated by Regeneration of Bamboo Waste Fibers. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 4225-4235	8.3	21
78	Design and Synthesis of Imidazolium-Mediated Tröger's Base-Containing Ionene Polymers for Advanced CO Separation Membranes. *ACS Omega*, **2019**, 4, 3439-3448	3.9	21

77	Structure–Property Relationships in Ionic Liquids: A Study of the Influence of N(1) Ether and C(2) Methyl Substituents on the Vaporization Enthalpies of Imidazolium-Based Ionic Liquids. *Industrial & Engineering Chemistry Research*, **2013**, 52, 16615-16621	3.9	20
76	COSMOTherm as a Tool for Estimating the Thermophysical Properties of Alkylimidazoles as Solvents for CO2 Separations. *Industrial & Engineering Chemistry Research*, **2013**, 52, 5498-5506	3.9	20
75	Structure–property relationships in ionic liquids: Influence of branched and cyclic groups on vaporization enthalpies of imidazolium-based ILs. *Journal of Chemical Thermodynamics*, **2016**, 93, 151-156	2.9	19
74	1,2,3-Trimethoxypropane: A Glycerol-Derived Physical Solvent for CO2Absorption. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 911-921	8.3	19
73	Tailored CO2-Philic Anionic Poly(ionic liquid) Composite Membranes: Synthesis, Characterization, and Gas Transport Properties. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 5954-5965	8.3	18
72	Building Blocks for Ionic Liquids: Vapor Pressures and Vaporization Enthalpies of 1-(n-Alkyl)-benzimidazoles. *Journal of Chemical & Engineering Data*, **2012**, 57, 1803-1809	2.8	18
71	Synthesis of 1,2-Dialkyl-, 1,4(5)-Dialkyl-, and 1,2,4(5)-Trialkylimidazoles via a One-Pot Method. *Industrial & Engineering Chemistry Research*, **2013**, 52, 11880-11887	3.9	17
70	Diol-Functionalized Imidazolium-Based Room-Temperature Ionic Liquids with Bis(trifluoromethanesulfonimide) Anions that Exhibit Variable Water Miscibility. *Industrial & Engineering Chemistry Research*, **2009**, 48, 8757-8759	3.9	17
69	Ionic liquid crosslinkers for chiral imprinted nanoGUMBOS. *Journal of Colloid and Interface Science*, **2016**, 463, 29-36	9.3	16
68	Analysis of the Frequency and Diversity of 1,3-Dialkylimidazolium Ionic Liquids Appearing in the Literature. *Industrial & Engineering Chemistry Research*, **2018**, 57, 15971-15981	3.9	16
67	Separation of racemic compound by nanofibrous composite membranes with chiral selector. *Journal of Membrane Science*, **2020**, 596, 117728	9.6	16
66	Single-step purification of raw biogas to biomethane quality by hollow fiber membranes without any pretreatment – An innovation in biogas upgrading. *Separation and Purification Technology*, **2018**, 203, 36-40	8.3	15
65	Beyond 1,3-difunctionalized imidazolium cations. *Nanomaterials and Energy*, **2012**, 1, 237-242	1.1	15
64	3D printing for CO2capture and chemical engineering design. *Nanomaterials and Energy*, **2013**, 2, 235-243	1.1	15
63	Solubility and diffusivity of CO2 in ionic polyimides with [C(CN)3]x[oAc]1– anion composition. *Computational Materials Science*, **2020**, 174, 109468	3.2	15
62	Molecular insight into the anion effect and free volume effect of CO solubility in multivalent ionic liquids. *Physical Chemistry Chemical Physics*, **2020**, 22, 20618-20633	3.6	15
61	Molecular Transport Behavior of CO in Ionic Polyimides and Ionic Liquid Composite Membrane Materials. *Journal of Physical Chemistry B*, **2019**, 123, 7455-7463	3.4	14
60	Enhanced photopolymerization rate & conversion of 1-vinylimidazole in the presence of lithium bistriflimide. *European Polymer Journal*, **2014**, 60, 92-97	5.2	14

59	Tuning the adsorption interactions of imidazole derivatives with specific metal cations. *Journal of Physical Chemistry A*, **2014**, 118, 3944-51	2.8	14
58	Structure-property relationships in ionic liquids: Chain length dependence of the vaporization enthalpies of imidazolium-based ionic liquids with fluorinated substituents. *Thermochimica Acta*, **2015**, 622, 38-43	2.9	13
57	Accelerated Aging and Qualitative Degradation Pathway Analysis of CO2 Capture Solvents Containing Ionic Liquids. *Energy & Fuels*, **2012**, 26, 5345-5349	4.1	13
56	Preparation of PSEBS membranes bearing (S)-(−)-α-methylbenzylamine as chiral selector. *European Polymer Journal*, **2020**, 122, 109381	5.2	13
55	110th Anniversary: Properties of Imidazolium-Based Ionic Liquids Bearing Both Benzylic and n-Alkyl Substituents. *Industrial & Engineering Chemistry Research*, **2019**, 58, 17956-17964	3.9	12
54	Considering the Basis of Accounting for CO2Mole Fractions in Ionic Liquids and Its Influence on the Interpretation of Solution Nonideality. *Industrial & Engineering Chemistry Research*, **2013**, 52, 3522-3529	3.9	12
53	Understanding the effects of backbone chemistry and anion type on the structure and thermal behaviors of imidazolium polyimide-ionenes. *Polymer International*, **2019**, 68, 1547-1556	3.3	11
52	Synthesis and Performance of Aromatic Polyamide Ionenes as Gas Separation Membranes. *Membranes*, **2020**, 10,	3.8	11
51	Synthesis and Characterization of Ionene-Polyamide Materials as Candidates for New Gas Separation Membranes. *MRS Advances*, **2018**, 3, 3091-3102	0.7	11
50	DFT study on the effect of exocyclic substituents on the proton affinity of 1-methylimidazole. *Chemical Physics*, **2013**, 416, 21-25	2.3	11
49	Understanding Carbon Dioxide Solubility in Ionic Liquids by Exploring the Link with Liquid Clathrate Formation. *Chemistry - A European Journal*, **2017**, 23, 14332-14337	4.8	11
48	Building Blocks for Ionic Liquids: Vapor Pressures and Vaporization Enthalpies of Alkoxy Derivatives of Imidazole and Benzimidazole. *Industrial & Engineering Chemistry Research*, **2012**, 51, 15517-15524	3.9	10
47	Systematic Investigation of the Photopolymerization of Imidazolium-Based Ionic Liquid Styrene and Vinyl Monomers. *Journal of Polymer Science Part A*, **2018**, 56, 2364-2375	2.5	10
46	Potential for Hydrogen Sulfide Removal Using Ionic Liquid Solvents **2012**, 155-167		9
45	Screening Ionic Liquids Based on Ionic Volume and Electrostatic Potential Analyses. *Journal of Physical Chemistry B*, **2021**, 125, 3653-3664	3.4	9
44	Solubility Behavior of CO in Ionic Liquids Based on Ionic Polarity Index Analyses. *Journal of Physical Chemistry B*, **2021**, 125, 3665-3676	3.4	9
43	Valorization of Plastic Wastes for the Synthesis of Imidazolium-Based Self-Supported Elastomeric Ionenes. *ChemSusChem*, **2020**, 13, 3122-3126	8.3	8
42	Photopolymerization of coordinated ionic liquid monomers: Realizing the benefits of structured media using only common reagents. *Journal of Polymer Science Part A*, **2016**, 54, 2004-2014	2.5	8

41	Building Blocks for Ionic Liquids: Vapor Pressures and Vaporization Enthalpies of N-Functionalized Imidazoles with Branched and Cycloalkyl Substituents. *Industrial & Engineering Chemistry Research*, **2015**, 54, 9850-9856	3.9	7
40	Dual Anion□Cation Crosslinked Poly(ionic liquid) Composite Membranes for Enhanced CO2 Separation. *ACS Applied Polymer Materials*, **2020**, 2, 5067-5076	4.3	7
39	Toward controlled functional sequencing and hierarchical structuring in imidazolium ionenes. *Polymer International*, **2020**, 70, 944	3.3	7
38	Enhancing the pre-polymerization coordination of 1-vinylimidazole. *Chemical Engineering Science*, **2015**, 138, 646-654	4.4	6
37	Emerging iongel materials towards applications in energy and bioelectronics. *Materials Horizons*, **2021**, 8, 3239-3265	14.4	6
36	Synthesis and Properties of 1,2,3-Triethoxypropane: A Glycerol-Derived Green Solvent Candidate. *Industrial & Engineering Chemistry Research*, **2020**, 59, 20190-20200	3.9	6
35	Design and Gas Separation Performance of Imidazolium Poly(ILs) Containing Multivalent Imidazolium Fillers and Crosslinking Agents. *Polymers*, **2021**, 13,	4.5	6
34	Understanding Gas Solubility of Pure Component and Binary Mixtures within Multivalent Ionic Liquids from Molecular Simulations. *Journal of Physical Chemistry B*, **2021**, 125, 8165-8174	3.4	6
33	Diphenyl Ether Derivatives as Potential Liquid Organic Hydrogen Carriers: Thermochemical and Computational Study. *Journal of Chemical & Engineering Data*, **2020**, 65, 1108-1116	2.8	6
32	Molecular-level analysis of the wetting behavior of imidazolium-based ionic liquids on bismuth telluride surfaces. *Chemical Engineering Science*, **2020**, 211, 115270	4.4	6
31	Molecular-level behavior of imidazolium-based ionic liquid mixtures. *Chemical Engineering Science*, **2021**, 229, 116073	4.4	6
30	Properties of symmetric 1,3-diethers based on glycerol skeletons for CO2 absorption. *Fluid Phase Equilibria*, **2020**, 521, 112718	2.5	5
29	Experimental Densities and Calculated Fractional Free Volumes of Ionic Liquids with Tri- and Tetra-substituted Imidazolium Cations. *Journal of Chemical & Engineering Data*, **2018**, 63, 2522-2532	2.8	5
28	Photopolymerization Behavior of Coordinated Ionic Liquids Formed from Organic Monomers with Alkali and Alkaline Earth Metal Bistriflimide Salts. *Macromolecular Chemistry and Physics*, **2017**, 218, 1600358	2.6	5
27	Photorheology and Gelation during Polymerization of Coordinated Ionic Liquids. *ACS Applied Polymer Materials*, **2020**, 2, 2397-2405	4.3	4
26	Designing Imidazolium Poly(amide-amide) and Poly(amide-imide) Ionenes and Their Interactions with Mono- and Tris(imidazolium) Ionic Liquids. *Polymers*, **2020**, 12,	4.5	4
25	Designing Ionic Liquid-Derived Polymer Composites from Poly(Ionic Liquid)□onene Semi-interpenetrating Networks. *ACS Applied Polymer Materials*, **2021**, 3, 1995-2004	4.3	4
24	How Do Ionic Liquids □old□onenes? Computational and Experimental Analysis of Imidazolium Polymers Based on Ether and Alkyl Chain Variations Dissolved in an Ionic Liquid. *Macromolecules*, **2021**, 54, 1611-1622	5.5	4

23	Molecular aspects of temperature swing solvent extraction for brine desalination using imidazole-based solvents. *Chemical Engineering Science*, **2022**, 247, 116866	4.4	4
22	Tangible visualization of molecular dynamics simulations using 3-D printing. *Education for Chemical Engineers*, **2015**, 13, 9-16	2.4	3
21	Nearly Perfect 3D Structures Obtained by Assembly of Printed Parts of Polyamide Ionene Self-Healing Elastomer. *ACS Applied Polymer Materials*, **2020**, 2, 4352-4359	4.3	3
20	Synthesis of imidazolium-mediated Poly(benzoxazole) Ionene and composites with ionic liquids as advanced gas separation membranes. *Polymer*, **2021**, 214, 123239	3.9	3
19	Photopolymerization of Alkyl- and Ether-Functionalized Coordinated Ionic Liquid Monomers. *ACS Symposium Series*, **2017**, 69-82	0.4	2
18	Ionic Liquids in Gas Separation Membranes **2013**, 1		2
17	Synthesis and properties of symmetric glycerol-derived 1,2,3-triethers and 1,3-diether-2-ketones for CO2 absorption. *Chemical Engineering Science*, **2021**, 248, 117150	4.4	2
16	Glycerol valorisation towards biofuel additivities: Thermodynamic studies of glycerol ethers. *Chemical Engineering Science*, **2022**, 247, 117032	4.4	2
15	Anionic Ring-Opening Polymerizations of N-Sulfonylaziridines in Ionic Liquids. *Macromolecules*, **2022**, 55, 623-629	5.5	1
14	Charge scaling parameter evaluation for multivalent ionic liquids with fixed point charge force fields. *Journal of Ionic Liquids*, **2022**, 2, 100020		1
13	Commodity Chemicals and Fuels from Biomass: Thermodynamic Properties of Levoglucosan Derivatives. *Industrial & Engineering Chemistry Research*, **2021**, 60, 17183-17194	3.9	1
12	Glycerol-derived solvents containing two or three distinct functional groups enabled by trifluoroethyl glycidyl ether. *AICHE Journal*,e17533	3.6	1
11	Synthesis and characterization of imidazolium-mediated Tröger's base containing poly(amide)-ionenes and composites with ionic liquids for CO2 separation membranes. *Polymer Chemistry*, **2020**, 11, 7370-7381	4.9	1
10	6FDA-containing polyimide-ionene + ionic liquid gas separation membranes. *Journal of Polymer Science*, **2020**, 58, 2664-2674	2.4	1
9	Lessons Learned from the Use of Unconventional Materials for CO2 Capture. *MRS Advances*, **2016**, 1, 3027-3035	0.7	1
8	The interfacial compatibility between a potential CO2 separation membrane and capture solvents. *Carbon Capture Science & Technology*, **2022**, 2, 100037		1
7	Experimental and Computational Study of the Properties of Imidazole Compounds with Branched and Cycloalkyl Substituents. *Liquids*, **2022**, 2, 14-25		0
6	Scalable, safer and greener syntheses of vinylimidazoles via reactive distillation of hydroxyethylimidazole intermediates. *Polymer International*, **2021**, 70, 582-593	3.3	0

List of Publications

5	Imidazole-Based Solvents and Membranes for CO2 Capture Applications. *Materials Research Society Symposia Proceedings*, **2014**, 1673, 1	
4	Tuning conformational structures of imidazolium ionenes with 1-ethyl-3-methylimidazolium ionic liquid solvents. *Chemical Engineering Science*, **2022**, 251, 117456	4.4
3	Molecular simulations and experimental studies of the structural properties of imidazolium ionenes with butyl and decyl spacers solvated in 1-ethyl-3-methylimidazolium bistriflimide. *Journal of Ionic Liquids*, **2022**, 2, 100013	
2	Polymeric Membranes **2020**, 187-214	
1	Carbon Capture, Usage, and Storage **2021**, 351-360	