

Ionic Liquid-based Solutions to CO₂ Capture and Separation

Jason Bara^{C, S}, Dean Camper, Douglas Gin and Richard Noble

Department of Chemical and Biological Engineering, University of Colorado, Boulder, CO, U.S.A.

Ionic liquids (ILs) hold much promise to revolutionize CO₂ capture technology. ILs can be combined with amines and used as chemically reactive solvents that overcome many of the disadvantages of the aqueous amine solvents currently used. Composites of ILs and tailored polymers show much promise as highly tunable CO₂-selective membranes. Details on the design, performance and future of each of these IL-based CO₂ capture and separation technologies will be discussed.