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Infinite dilution activity coefficients of solutes dissolved in anhydrous alkyl(dimethyl)isopropylammonium bis(trifluoromethylsulfonyl)imide ionic liquids containing functionalized- and nonfunctionalized-alkyl chains

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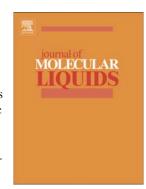
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ACCEPTED MANUSCRIPT

Infinite Dilution Activity Coefficients of Solutes Dissolved in Anhydrous

Alkyl(dimethyl)isopropylammonium bis(Trifluoromethylsulfonyl)imide Ionic Liquids

Containing Functionalized- and Nonfunctionalized-Alkyl Chains

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Abstract

Infinite dilution activity coefficients and gas-to-liquid partition coefficients have been determined for at least 42 different organic solutes of varying polarity and hydrogen-bonding character dissolved in anhydrous ionic liquids comprising propyl(dimethyl)isopropylammonium bis(trifluoromethyl-sulfonyl)imide, hexyl(dimethyl)isopropylammonium bis(trifluoromethylsulfonyl)imide, 2-hydroxyethyl(dimethyl)isopropylammonium bis(trifluoromethylsulfonyl)imide, cyanomethyl(dimethyl)isopropylammonium bis(trifluoromethylsulfonyl)imide, and N,N,N',N'-tetramethyl-N,N'-diisopropyl-1,9-nonanediaminium di[bis(trifluoromethylsulfonyl)imide]. The measured gas-to-liquid partition coefficient data were converted to water-to-liquid partition coefficients using standard thermodynamic relationships. Abraham model predictive correlations were developed from both

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