Thermophysical Properties of Benzyl Imidazolium Ionic Liquids

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The thermal behavior, glass transition temperatures, crystallization, melting temperatures, enthalpies and entropies of isotropization, of ionic liquids (ILs) of the 1-benzyl-3-methylimidazolium family, [BzC1im]+, with five different anions: chlorine; tetrafluoroborate; hexafluorophosphate; 1,1,2,2-tetrafluoroethanesulfonate and bis(trifluoromethylsulfonyl)imide), are presented. Heat capacities of the condensed phases were measured by continuous and step method in the temperature interval from 258 K to 358 K by Tian-Calvet microcalorimeter and, at *T*=298.15K, by the drop calorimeter. By comparison with the CnC_1im^+ IL series , the obtained results give insights into the anion character and topology and the understanding of the benzyl group contribution to the thermophysical properties of ionic liquids.

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