Excess Molar Enthalpies for the Binary Mixtures using flow-mixing isothermal microcalorimeter

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Room-temperature ionic liquids (RTILs or ILs) and carbon dioxide have been categorized as green solvents and investigated for a wide range of industrial applications. Binary systems involving ionic liquids (ILs) and carbon dioxide (CO_2) form the basis of many applications as replacement solvents. In this work, Excess molar enthalpies for binary systems of 1-butyl-3-methylimidazolium chloride [BMIM][Cl], ionic liquid + alcohols at atmospheric pressure were measured with two HPLC pumps and isothermal microcalorimeter (Model : CSC-6238) and correlated by using the UNIQUAC equation. and excess molar enthalpies for binary systems of carbon dioxide + (ionic liquid + alcohols) at high pressures were determined by using a high pressure flow-mixing isothermal microcalorimeter . The experimental data were correlated by using the Peng-Robinson equation and GC-NLF equation.