The solubility data of carbon dioxide + 1-ethyl-3-methylimidazolium chloride system

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We demonstrate the solubility measurement of carbon dioxide (CO_2) into ionic liquids 1-ethyl-3-methylimidazolium chloride ([emim][Cl]). The Solubility data of CO2 were measured increasing pressure with the control of temperature from 358.15K to 388.15K in the increasing interval of 15K. The solubility was obtained by observing the bubble point or cloud point pressure of CO2 in ionic liquids at certain temperature using a variable volume view cell apparatus. In this work, the mole fraction of CO_2 was in the range of 0.15 to 0.8.