Vapor-liquid equilibria for the binary system of acetonitrile + 1-butyl-3-methylimidazoliumtetrafluoroborate at various temperatures from 283.15K to 343.15K

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In this study, vapor-liquid equilibria (VLE) for the acetonitrile + 1-butyl-3-methylimidazoliumtetrafluoroborate ($bmimBF_4$) system was measured for five isotherms ranging from 283.15K to 343.15K at 15K intervals. The VLE data of the binary mixture was obtained using static apparatus at various compositions. The experimental data have been correlated with the Peng-Robinson (PR) equation of state using the Wong-Sandler mixing rule and NRTL model.