

Measurement of isothermal VLE data for binary systems containing methyl iodide at various temperatures from 283.15 to 323.15 K

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VLE data for binary systems of dimethyl ether(DME)+ methyl iodide(CH₃I) and carbon dioxide(CO₂)+ methyl iodide(CH₃I) were measured at five equal spaced temperatures between 283.15–323.15K using a circulation-type equilibrium apparatus. The experimental data were correlated with the Peng–Robinson equation of state (PR–EoS) using the Wong–Sandler (W–S) mixing rule, which was combined with the nonrandom two-liquid (NRTL) excess Gibbs free energy model and Peng–Robinson equation of state (PR–EoS) using the Universal mixing rule (UMR) as well as with the UNIQUAC model. Calculated results with these equations have given satisfactory results in the comparison with the experimental data.