Vapor-liquid equilibria data for methanol+ cyclopentyl methyl ether (CPME), cyclopentene + cyclopentyl methyl ether (CPME)

정아영, 임종성†
서강대학교
(limjs@sogang.ac.kr†)

Isothermal vapor-liquid equilibrium data for the binary system of methanol + cyclopentyl methyl ether(CPME) and cyclopentene+ cyclopentyl methyl ether(CPME) were measured at five equal-spaced temperatures between 313.15 and 353.15K using a circulation-type equilibrium apparatus. The experimental data were correlated with the Peng-Robinson equation of state using the Wong-Sandler mixing rule combined with the NRTL excess Gibbs free energy model. In addition, the average absolute deviations of pressure and vapor phase compositions between experimental and calculated values were reported, and the relevant parameters were determined. Calculated results with PR-EoS using both two mixing rules showed good agreement with experimental data with the average absolute deviation in percentage (AAD %) below 1.5 %.