Phase behavior and modeling of carbon dioxide + 2,2,2-trifluoroethyl methacrylate and carbon dioxide + poly (2,2,2-trifluoroethyl methacrylate) systems

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High-pressure phase behavior for the binary system of carbon dioxide + 2,2,2-trifluoroethyl methacrylate (TFEMA) was measured at 50, 60,70 and 80℃. And cloud-point behavior for poly (TFEMA) in carbon dioxide was obtained in the temperature range of 40-180℃.
Isothermal Pressure-composition (P-x) diagram for carbon dioxide + TFEMA system and Pressure-Temperature (P-T) diagram of carbon dioxide + poly (TFEMA) system were obtained using a variable volume view cell. The experimental results were correlated with the Lattice Fluid equation of state.