Phase behavior for the binary mixture of methyl methoxyacetate and methyl 3-methoxyacrylate in supercritical carbon dioxide

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In this work, the solubility behavior for the (CO_2 + methyl methoxyacetate) and (CO_2 + methyl 3-methoxyacrylate) mixtures at pressures from (5 to 20) MPa and various temperatures (313.2, 333.2, 353.2, 373.2 and 393.2 K) are measured in the static method with a variable-volume high pressure view cell. The experimental results obtained in this research are correlated with Peng-Robinson equation of state and van der Waals one-fluid mixing rule containing two adjustable interaction parameters. The critical constants for the Peng-Robinson equation of state were estimated using the group contributions method. The Lee-Kesler method was used to predict the acentric factor.