

ABSTRACT

The capacity factors for the chromatographic retention of naphthalene, fluorene, phenanthrene and pyrene in supercritical carbon dioxide using an octadecyl silate bonded-phase column have been measured between 300 and 400 K. The results, which go through a maximum as a function of temperature, are quantitatively explained using the Peng-Robinson equation of state to calculate fugacity coefficients in the supercritical phase. Values of the enthalpies of solution of the compounds in the stationary phase from the vapour phase are obtained which are approximately equal and opposite to published values of the enthalpies of sublimation of the compounds. - -