148v Diffusion and Viscosity in Gas-Expanded Liquids

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Gas-expanded liquids are a new class of tunable solvents in which novel applications in separations and catalysis depend on the interactions of solutes with the cybotactic region. We report diffusion coefficients of benzene, pyridine, pyrimidine, pyrazine and 1,3,5-triazine by the Taylor-Aris dispersion technique in CO2-methanol mixtures. Viscosities of the CO2-methanol mixtures will be determined by measuring the pressure drop across a tube. These data will be compared with measurements of viscosity in the cybotactic region obtained by the rotation of a chromaphore. The comparison of these with the Stokes-Einstein relationship will help elucidate differences between bulk and local properties.