

The Solubility of Propane in Water: A High-Precision Study

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The solubility of propane in pure liquid water was measured at total pressures of about 100 kPa, and at temperatures from about 278 K to 318 K (at roughly 5 K intervals) using an analytical method characterized by an imprecision of about 0.1 % [1,2]. From the experimental results, Henry fugacities of propane dissolved in water at the vapor pressure of water as well as Ostwald coefficients at infinite dilution were obtained [3,4]. Subsequently, the partial molar enthalpy changes on solution and the partial molar heat capacity changes on solution were determined via a van't Hoff type analysis of the data. Agreement with calorimetrically determined quantities is excellent [5-7].

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