



Excess Thermodynamic and other Allied Parameters in the Binary Mixtures of p-Xylene with Benzyl benzoate as Common Component

J. Nageswara Rao^{1,2}, P. V. Sairam^{1,3}, M. V. Basaveswara Rao⁴
and G. Srinivasa Rao^{3*}

1. Department of Physics, Krishna University, Machilipatnam-521001, **INDIA**

2. Department of Physics, Government Degree College, Chintalapudi,
West Godavari District-534460, **INDIA**

3. Department of Physics, Andhra Loyola College, Vijayawada-520008, **INDIA**

4. Department of Chemistry, Krishna University, Machilipatnam-521001, **INDIA**

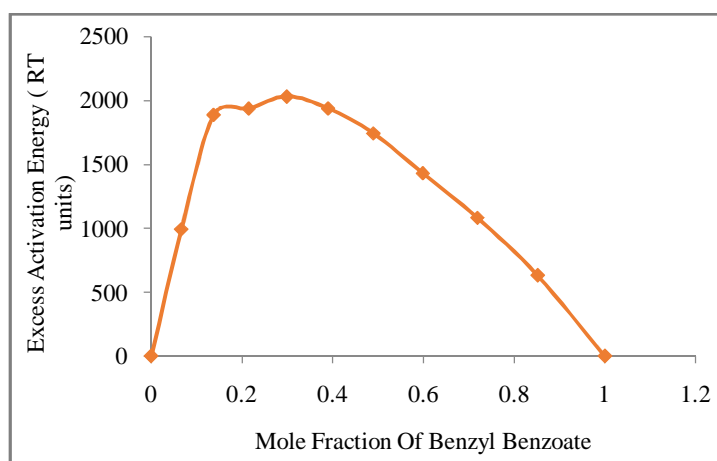
Email: schoolofphysics.47@gmail.com

Accepted on 23rd April, 2019

ABSTRACT

Density, viscosity and ultrasonic velocity have been measured in binary mixture of p-Xylene with benzyl benzoate as common component at different Temperatures 30°C, 40°C and 50°C. From the measured data, computed excess thermodynamic parameters like Adiabatic Compressibility, Internal Pressure, Molar Volume, Free length, enthalpy and Gibbs activation energy and the intermolecular interactions are estimated in the light of the excess parameters. In the mixture p-xylene with Benzyl benzoate Strong interactions are suggested.

Graphical Abstract



variation of excess Activation energy with mole fraction of Benzyl benzoate

Keywords: Binary mixtures, p-Xylene, Benzyl benzoate, Relaxation strength, Molecular interactions.