

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

Ultrasonic Velocity, Viscosity and Refractive Index Investigation on Interacting Blend Solutions of PAA (Poly Acrylic Acid) and PVA (Poly Vinyl Alcohol) in Solvent DMSO (Di methyl Sulphoxide)
CHAKRALA NAGAMANI — The present study provides a great insight into the major new research areas like Plasma research (which is yielding a greater understanding of the universe) and Nano Technology Research (which provides many practical uses like Drug Delivery System). The Ultrasonic Velocities, Viscosities and Refractive indices of Poly (Acrylic Acid) and Poly (Vinyl Alcohol) blends in DMSO solutions have been measured over a wide range of composition, concentration and at different temperatures. The variation of Ultrasonic Velocity, derived acoustical parameters, adiabatic compressibility, acoustic impedance, Rao number, molar compressibility and relaxation strength with composition of blend solution was found not linear. This non-linearity has been attributed to incompatibility in conformity with the earlier findings. This behavior was confirmed by Viscometric and interaction parameters studies, as well as by investigation of Refractive index studies. These investigations offer an entirely new and simple approach to the study of the compatibility of polymer blends which is in general obtained by sophisticated techniques of thermal dynamic mechanical and electron microscopic analysis.

Chakrala Nagamani

Date submitted: 02 Sep 2010

Electronic form version 1.4