Papers published/Communicated

1. Densities and Viscosities of Propionates of Sodium and Potassium in aqueous Propionic acid at different temperatures - 

2. Viscosity, Ultrasonic and Refractometric Studies of Intertacing Blend solutions of poly(acrylic acid) with poly(ethylene oxide) in DMF and DMSO at different temperatures - 

3. Miscibility studies on PAA/PEO blends in DMSO and DMF from Viscosity, Ultrasonic and Refractometric studies at different temperatures - 

4. Miscibility studies on solution of PAA/PVAc blend in DMSO and DMF by Ultrasonic and Viscometric methods - 

5. Density and Viscosity Studies of PMAA/PVP blends in DMSO and DMF at different temperatures - 

6. Study of Compatibility of poly(methacrylic acid)/poly(vinyl pyrrolidone) blends in DMF - 
   *Acoustica*, 1998 (communicated).
Papers presented at Conferences/Symposia

1. Ultrasonic Studies of Interacting Blend Solutions of Poly(acrylic acid) with poly(vinyl pyrrolidone) in DMSO at different temperatures -

2. Miscibility and Interaction Study on poly blend solutions of poly(acrylic acid) with poly(ethylene glycol) in methanol by Utraasonic and Viscometric Techniques at different temperatures -
   National Symposium on "Advances in Polymer Technology APT '98" - at Cochin University of Technology, Cochin during March 27-28, 1998.

3. Compatibility Studies of poly(vinyl pyrrolidone) and poly(acrylic acid) in dimethylformamide by Viscosity and Ultrasonic Methods -
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Ultrasonic Studies of Interacting Blend Solutions of Poly (Acrylic Acid) with Poly
(Vinyl Pyrrolidone) in DMSO at Different Temperatures

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The interacting blends of poly (acrylic acid) with poly (vinyl pyrrolidone) in
DMSO solutions have been studied by ultrasonic techniques. The mixing of
solutions of the polymers produces an immediate precipitate, indicating strong
interaction between the polymers and stoichiometry of the polymer complexes
formed by the strong interaction between the polymers in solution.
Poly (acrylic acid) and poly (vinyl pyrrolidone) are capable of prolonging the
action of various medicines (antibiotics, narcotics, anaesthetics, alkaloid
hormones). These polymers have been well established ingredients in many
cosmetic formulations owing to their adhesion to hair and skin, ability to form
lustrous films, solubility in organic solvents as well as water, non-allergic
characters and protective colloidal action. Owing to these important applications
of the polymers, we have taken up the ultrasonic study of these polymer blend
solution in DMSO which is known as highly useful industrial solvent to explore
the usefulness of these polymers.
MISCIBILITY AND INTERACTION STUDY ON POLYBLEND SOLUTION OF POLY ACRYLIC ACID WITH POLYETHYLENE GLYCOL IN METHANOL BY ULTRASONIC AND VISCOMETRIC TECHNIQUES AT DIFFERENT TEMPERATURES

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Viscometric and ultrasonic velocity studies have been conducted on solutions of blends of poly acryllic acid with poly ethylene glycol in methanol at different concentrations and temperatures. From these experimental results adiabatic compensability, acoustic impedance, Rao's number, Van Der Waals constant, relaxation strength have been calculated. It has been found that in blend solutions the plots of absolute viscosity, ultrasonic velocity and linearity, according with degree of compatibility of polymer blends at different concentrations and temperatures, the curves for compatibility system are linear. This investigation provides a new approach to study the compatibility of polymer blends.
National Seminar
on
Polymer Research in Academy, Industry and
R&D Organisation

26-27 June 1998 Calcutta

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COMPATIBILITY STUDIES ON SOLUTIONS OF POLY(VINYL PYRROLIDONE) AND POLY(ACRYLIC ACID) IN DIMETHYLFORMAMIDE BY VISCOSITY AND ULTRASONIC METHODS

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The densities, ultrasonic velocities and viscosities of 4% blend concentration of poly(vinyl pyrrolidone)-poly(acrylic acid) blend solutions in dimethylformamide are measured at 30°C. The variation of the viscosity with the composition is nonlinear which indicates the incompatibility behaviour of these two polymers in DMF. The curves obtained for ultrasonic velocity (v) and adibatic compressibility (βad) versus composition of PVP also showed nonlinear behaviour which further confirms the incompatibility of the blend in DMF.