Viscosity, Ultrasonic, Refractometric and Morphological Studies of Pullulan/Gelatin Blends

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ABSTRACT
Measurements of Viscosity, Ultrasonic velocity, Refractive Index and SEM Studies of Pullulan/Gelatin blends in water were carried out for different blend compositions at 30°C and 40°C. The properties like Thermal degradation, Biodegradability, Drug releasing capacity and Durability of polymers can be enhanced by blending a polymer with another polymer. The Miscibility and Compatibility are the two important parameters for the polymer blend studies. Using the viscosity data, interaction parameters \( \mu \) and \( \alpha \) were computed to determine miscibility. These values revealed that Pullulan/Gelatin blends were immiscible over the entire composition range studied at 30°C and 40°C. SEM analysis also supported the same. The results were further confirmed by ultrasonic velocity, Refractive index measurements, and Morphological Studies. Physico mechanical properties of Pullulan / Gelatin blend films show poorer qualities.

Keywords: Pullulan, Gelatin, Miscibility, Blends Compositions, SEM and other measurements.