MODIFICATION OF PHYSICOCHEMICAL PROPERTIES OF ALBENDAZOLE VIA FORMATION OF IONIC LIQUIDS

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ABSTRACT

The world is rife with parasitic diseases. There is a great need to develop methods to improve delivery of medicines. Solubility and chemical stability are crucial factors to be taken into account while creating medicines. Ionic liquids (ILs) are ion-based salts that melt at or are liquid at lower than 100°C, depending on chemical makeup. Organic salts which are liquids at, room temperature are known as room temperature ionic liquids (RTILs). IL of albendazole by using malonic acid as coformer has been developed, optimized and validated successfully. Obtained ILs show significant changes in melting point, solubility and dissociation constant value. Further characterisation of synthesized ILs was carried out by using Fourier transform-infrared (FT-IR) spectroscopy, Differential scanning calorimetry (DSC) and X-ray powder diffractometry (XR-PD). From the study, it is concluded that in dose-dependent suppression of earthworm's spontaneous movement, ILs exhibit potent anthelmintic action.

Keywords: Ionic liquids, (IL