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(57) Abstract :
The present invention relates to investigate pharmaceutical potentialities of a polymeric micro particultes drug delivery system for modulating the drug profile of poorly water-soluble anti-eplieptic drug Lamotrigine. Microspheres were prepared by spray drying technique with PVP as polymer. Lamotrigine was entrapped in the microspheres at various polymer ratios. The microspheres were evaluated for various parameters like micrometrics properties cumulative in-vitro drug release, by FTIR, DSC and SEM. The prepared microspheres were found in spherical shape and showed good entrapment efficiency (78.60%). FTIR and DSC results indicated that the drug was compatible with the polymers. Amongst all the formulations, B4 (drug: Lamotrigine and polymer Polyvinylpyrrolidone) showed excellent drug release properties with 88.36% of drug released at the end of 1 hr. Microspheres prepared using Polyvinylpyrrolidone can be used as a drug delivery system for Lamotrigine for epilepsy treatment.

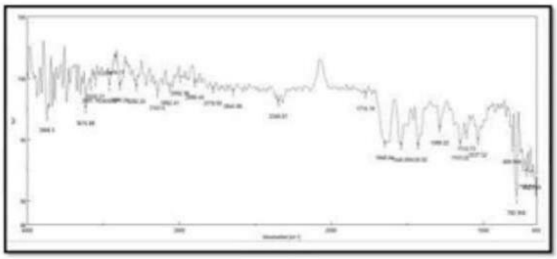

**Figure 1**

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