Abstract

Charles University, Faculty of Pharmacy in Hradec Králové

Department of:	Department of Pharmaceutical Technology
Supervisor:	Doc. PharmDr. Zdeňka Šklubalová, Ph.D.
Consultant:	Mgr. Jana Brokešová
Student:	Eliška Veselá
Title of Thesis:	Study of influence of hydrophilic carriers on the solubility of a poorly soluble drug

The aim of this thesis was to enhance the solubility of a poorly soluble model drug meloxicam (MLX) by preparing binary interactive mixtures with hydrophilic carriers by simple mixing and co-milling. The mixtures were characterized for granulometric properties. The dissolution studies were carried out using the USP-4 apparatus assembled with a flow-through powder cell in an open-loop system. The dissolution rate r_{rel} (min^{-1}) and the amount of released drug m_{rel} (%) were evaluated. The observable positive effect of carriers was registerred in terms of increasing the dissolution rate and the amount of released drug for both mixed and co-milled mixtures comparing to the raw drug. Mixtures with hypromellose were the exception; the improvement of the monitored parameters was not detected.