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Preparation and Evaluation of Controlled Release Tablets Containing Ciprofloxacin HCl: Influence of Polymer Concentrations on *In Vitro* Drug Release Profiles

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***SUMMARY*. The aim of the presented study was to formulate and evaluate ciprofloxacin controlled release matrix tablets using different concentrations of polymer Eudragit in order to see their effect on drug release profiles during *in vitro* dissolution studies. Ciprofloxacin controlled release tablets were prepared with Eudragit by direct compression method. Several ratios of drug to polymer were used to develop optimized CR formulations having nearly constant blood plasma concentrations and to investigate the affect of polymer concentration on drug release rates during *in vitro* dissolution studies. The developed tablets were physically evaluated using different parameters including physical appearance, hardness, drug content, friability and dimensional tests. The *in vitro* drug dissolution studies were performed in phosphate buffer pH 7.4 using USP method-I (rotating basket method) with the help of Pharma Test dissolution apparatus and maintaining the temperature at 37 °C ± 0.1. The drug transport mechanism from tablets was elucidated by using various mathematical/kinetic models employed to dissolution data. Similarity factor f_2 was employed to the release profiles of formulations from the test and a reference conventional formulation to check the similarities and differences between the release profiles. Accelerated stability studies were performed on the optimized tablets under accelerated storage conditions of 40 ± 2 °C and 75 ± 5 % relative humidity for a period of 6 months.**

KEY WORDS: Ciprofloxacin, Controlled release tablets, Drug release kinetics and patterns, Eudragit.

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