

1 ABSTRACT

The diploma thesis first describes the theory biopharmaceutical classification system, it gives a detailed summary of naproxen as the drug used at further in vitro experiments for drug delivery and a brief information about nanofiber membranes in general and their use as drug carriers is also given.

Experimental section is focused to in vitro release of naproxen from electrospinning nanofiber membranes with regard to the possibility of the use of lamination.

At non-laminated nanofiber membranes with three different concentrations of naproxen (5%, 15% and 30% by weight) the rates of drug release of 90 % amount were very fast, always up to 10 minutes.

Total releaseable amount of naproxen was always about 65% of the total drug load in the membrane.

The nanofiber membranes laminated with oleoester show always much prolonged time profiles of naproxen released. This deceleration of delivery rates did not exert any negative influence on the total amounts of drug within an therapeutically interesting period of 1 hour.