

CHAPTER V

CONCLUSION

From the stability studies performed, the followings can be concluded:

1. From the chemical and physical stabilities point of view, the most stable indomethacin solution formulated was composed of 70 % ethanol, 7.5 % propylene glycol, 5 % pluronic F127 and water to 100 %. The conservative predicted shelf life of the formulation was 5.43 years at 33°C. However, the data obtained at ambient temperature (average of 33°C) showed no chemical degradation.

2. The formulated topical indomethacin gel contained 30 % ethanol, 10 % propylene glycol, 10% pluronic F127, 12 % polysorbate 80, 1 % carbopol 940, sodium hydroxide q.s., and water to 100 % was quite stable physically. The predicted shelf life of this prepared indomethacin gel was 161 days calculated using the zero-order kinetics.

3. The stability of the topical indomethacin solution available in Thailand, ElmetacinTM, was very stable chemically and physically. ElmetacinTM was more stable than the prepared indomethacin solutions.

4. The prepared topical indomethacin solution was

more stable than the prepared topical indomethacin gel since the prepared gel needed some alkali for neutralizing the gelling agent.