# CHAPTER V
# CONCLUSIONS

Electrospun chitosan/THC fiber mats were successfully prepared by an electrospinning technique. The morpholygy of the electrospun fiber mats depended on the polymer and drug concentration. The optimum condition was 6.9 wt%. chitosan and 20 wt%. THC concentration in TFA: DCM 70:30(v/v) which can be observed the beaded free-fibers with average fibers diameter 300±10. The crosslinking and neutralization did not affect the dissolution and fusion of fiber mats in acetate buffer which simulate human skin pH condition of 5.5. The FTIR results could be characterized the structure of the pre-neutralized chitosan/THC fibers, the post-neutralized chitosan/THC fibers, the crosslinked chitosan/THC fibers and the post crosslinked chitosan/THC fibers. Both the degree of swelling and weight loss of the electrospun fiber mats were greater than those of films due to the highly porous nature of the fibrous structure. Both total immersion and transdermal diffusion through pig skin method, the post neutralized and crosslinked electrospun chitosan/THC fiber mats exhibited much greater release of the model drug when compared with the post neutralized and crosslinked chitosan/THC films. And this result corresponded to the obtained rate parameter (k) of drug released mechanism. In transdermal diffusion through pig skin method, both the rate and the total amount of the drug released were much lower when compared with those in the total immersion method, indicating that the transport of the drug through the pig skin was the rate-determining step. All of the electrospun chitosan/THC fiber mats were not toxic, and did not release cytotoxic substances in the culture medium towards mouse fibroblasts (L929).