

CHAPTER V

CONCLUSIONS

The combination of γ -ray irradiation and chemical modification is a novel approach to overcome the lack of solubility and chemically inert property of chitin-chitosan. γ -Ray irradiation on chitosan in water phase induced the significant decrease in molecular weight for up to 70% at γ -ray irradiation for 80 kGy with slightly change in chain ends. The higher the amount of dose, the higher the reactivity of γ -ray irradiated chitosan. γ -Ray irradiated chitosan-glutaraldehyde-stearylamine (ICGS) was achieved by simple reaction under mild condition within few hours. The ICGS showed the hypochromic effect induced by the hydrophilic and/or hydrophobic interaction between the ICGS and the model drug, Chloramphenicol. The present work shows a practical approach to use γ -ray irradiation for controlled release system.