Thesis Title Comparison of chitosan and polymethacrylate ester copolymer as drug release controlling film in propranolol hydrochloride pellets using chitosan as binding agent.

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ABSTRACT

Propranolol hydrochloride pellets were prepared in a fluidized granulator (Glatt GPCG-1). Pellets comprised propranolol hydrochloride and microcrystalline cellulose (Avicel® PH101) at a ratio of 2:3 and used chitosan as a binder. Pellets having mesh cut of 16/18 were further coated with chitosan solution in fluid bed bottom spray coater. The chitosan coated pellets were treated with sodium tripolyphosphate solution at various concentration and reaction time. The influences of %chitosan film, sodium tripolyphosphate concentration and agitation times were evaluated. Surface morphology of pellets and coated pellets and cross section of polymer film were also examined by using scanning electron microscope.

It was found that, upto 3% chitosan and 6% sodium tripolyphosphate, could not regulate the drug release, However, the pellets

coated with polymethacrylate copolymer, Eudragit RS 100, at appropriate thickness could control the release of drug according to the USP requirements.