

Thesis Title Influences of Methacrylate Ester Copolymer and Compression Force on Properties of Propranolol Hydrochloride Matrix Tablets.

Name Pathumporn Chonwattanakul

Degree Master of Science (Pharmacy)

Thesis Supervisory Committee

Ampol Mitrevej, Ph.D.

Varaporn Junyaprasert, Ph.D.

Nuttanun Sinchaipanid, Ph.D.

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ABSTRACT

Methacrylate ester copolymer with low permeability (Eudragit[®] RS 100) in 95% ethanol was employed as retarding agent in propranolol hydrochloride (PPNL) matrix tablets. The matrix tablets composed of Eudragit[®] RS 100 as matrix material and dibasic calcium phosphate as additive. The granules were prepared by wet granulation with 5, 10, 15 and 20% of Eudragit[®] RS 100 using fluidized bed granulator (GPCG1) and compressed to tablets at 600, 900 and 1200 kg force. It was found that the release rates decreased with the increase in Eudragit[®] RS 100. The effect of compression force on drug release was found to be of non-significance. The compression forces employed was sufficiently high in order to maintain the integrity of the tablets throughout the dissolution test. At these compression forces, the release rate could be independent of tablet porosity. These matrix tablets were further coated with 5% Eudragit[®] RS 100. It was found that the dissolution of the drug from the coated matrix tablets met USPXXII requirement for PPNL extended-release capsules; the release pattern appeared to follow Higuchi's equation.

Storing these tablets at 45°C and 75% RH could adversely affect the release rate.