

ABSTRACT

**ENHANCEMENT OF MEFENAMIC ACID DISSOLUTION RATE
BY MEFENAMIC ACID – SACCHARIN COCRYSTALLIZATION
(Solvent Evaporation with Rotavapor)**

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Mefenamic acid is anthranilic acid derivative which are class of no-steroidal anti inflammatory drug and is used as analgesic, antipyretic and antirheumatic. It has been classified as Biopharmaceutical Classification System II (BCS II) which has poor solubility in aqueous medium and reasonable permeability. There have been many studies conducted to improve the solubility and dissolution rate of mefenamic acid, one of them is cocrystallization. The aim of this study is to enhance dissolution rate of mefenamic acid by mefenamic acid – saccharin cocrystallization with molar ratio 1:1 and 1:2 are made by solvent evaporation with rotavapor. In the manufacture of mefenamic acid – saccharin cocrystal by solvent evaporation with rotavapor, mefenamic acid and saccharin with molar ratio 1:1 and 1:2 were dissolved in ethanol. Solution formed is evaporated by rotavapor at temperature of 40°C. The resulting system were subjected to x-ray diffractometry and geometry crystal to identify the physicochemical interaction between drug and coformer. Cocrystallization products turn out crystal mixture from *co-evaporation* process and are specified its dissolution rate by compare with physic mixture and mefenamic acid single. The result of ED₆₀ each treatment is tested by statistics One way ANOVA and HSD test. From this research, the conclusion is cocrystallization product of mefenamic acid – sachharin ratio 1:1 and 1:2 by solvent evaporation with rotavapor are not formed cocrystal and cocrystallization product of mefenamic acid – sachharin ratio 1:1 and 1:2 have dissolution rate higher than mefenamic acid single and its physic mixture.

Keywords : *Mefenamic acid, Saccharin , Cocrystallization, Dissolution rate*