

## Recrystallization of Paracetamol using the Anti-Solvent Technique and the Effect of various parameters

이승주, 여상도<sup>†</sup>  
경북대학교  
(syee@knu.ac.kr<sup>†</sup>)

Paracetamol is a kind of pharmaceutical ingredient which inhibits the biosynthesis of prostaglandin, which transmits pain in the human body. Many recrystallization studies have been conducted to control particle size and shape in order to have a precise bioavailability to meet the demand as a pharmaceutical ingredient. In this study, recrystallization experiments were carried out with three different anti-solvents. D.I water and n-hexane and also supercritical CO<sub>2</sub> was used as anti-solvents. The object of this study is to observe the changes in the crystal structure and particle size distribution of paracetamol when these three anti-solvents were used. The solution concentration, the injection rate, the temperature and the intensity of ultrasonic waves during recrystallization were set as experimental parameters. SEM, XRD, and DSC were used to analyze the experimental results. The results showed that the crystal external shape was spherical, granular and flaky depending on the type of anti-solvent.