

## Optimization of an anti-solvent feeding rate profile in seeded batch drowning-out crystallization process

의수란, 양대륙\*  
고려대학교 화공생명공학과  
(dryang@korea.ac.kr\*)

In drowning-out crystallization process, the optimization of operating condition has been traditionally sought with respect to the anti-solvent(or solution) feeding rate and seeding characteristics. To improve crystallization process performance this study conducted to optimize the anti-solvent(acetone) feeding rate for potash alum in water-acetone solution. The model of crystallization process is constructed using population balance and it take account into dynamic meta-stable limit prediction. The growth and nucleation kinetics parameters are estimated by optimization problem based on final time CSD(Crystal Size Distribution) of experiments. Then, the optimal feeding strategy is obtained using the GA (Genetic algorithm) in order to maximize the crystal growth rate while suppressing the nucleation.