

### Modeling of Selective Crystallization of L-Glutamic Acid Polymorphs

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Organic solids including amino acids and pharmaceutical ingredients have two or more forms of polymorphs that are different in crystal structures. Each polymorph has different shape and solubility and these properties are directly related to industrial ease of handling or bioavailability. In this regard, modeling and control of polymorphism during crystallization process has gained interest of engineers. Generally the least stable polymorphic form is crystallized first and transformed into more stable form. This so-called polymorphic transformation of L-glutamic acid is simulated using mathematical model. L-glutamic acid has two polymorphic forms and nucleation of either form can be dominant in different conditions. The influence of cooling rate in various temperature range on the polymorphic transformation is studied and optimal strategy for selective crystallization is suggested.