The couette-taylor flow effects on L-histidine polymorphs

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Polymorphism is the ability of a solid material to exist in more than one form or crystal structure. Polymorphism is important in the development of pharmaceutical ingredients because the organic medicine which has the various habits have the different physical properties of a medicine according to their shape. In this study, L-histidine used for an essential amino acid in human infants was experimentally investigated in a couette-taylor reactor, comparing the existing experiments in a batch reactor. To compare a couette-taylor and general batch reactor, the productivity, yield and crystal size distribution were analyzed. The effect of the operating conditions such as the supersaturation ratio, temperature, and the solvent compositions on polymorphs was also studied, and then the optical control strategy was found.