

## Effect of Main Cation in Bittern on the Texture and Bitterness of Jelly Formulation

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### Summary

We investigated the effect of cation on the quality of jelly formulation containing the curcumin, which is poorly water soluble compound. We succeeded in improving the solubility and dissolution profile of curcumin using the transglycosylated stevia and polyvinylpyrrolidone K-30. Furthermore, PVP acted as keeping the supersaturated state of curcumin solution. We prepared jelly formulation of this supersaturated curcumin solution using gel agents of sodium alginate, pectin, and carrageenan. Both sodium alginate and carrageenan succeeded in jelly formulation, while pectin decreased the curcumin content in jelly formulation.

Furthermore, the dissolution profiles of curcumin jelly formulation using alginate and carrageenan were investigated. Both dissolution profiles were improved. Cations, which are necessary for the jelly formulation, were added in the jelly formulations to maintain the hardness and quality. Pottasium caused the syneresis from jelly formulation although the curcumin content was maintained. Up to these findings, cations would be acted as maintain of jelly quality. In the future, we need to the masking effect of cation to bitterness and improvement of taste for jelly formulations.