

Preparation of inclusion complex of cetirizine dihydrochloride using β -cyclodextrin by aerosol solvent extraction system(ASES) process

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Cetirizine dihydrochloride (CTZ) is antihistamine selectively blocking histamine (H_1)-receptor and has effect on easing allergy. Even though CTZ has been used widely, there are difficulties in swallowing and access to water because of strong bitter taste. In this works, bitter taste of CTZ is blocked by preparation of the inclusion complex using β -cyclodextrin(β -CD) by aerosol solvent extraction system(ASES). Since cyclodextrins(CDs) has favorable structure, it is very convenient to make the inclusion complex and complexation can modify the physicochemical and biopharmaceutical properties of CTZ such as bioavailability, chemical stability, unpleasant odor or taste. ASES for complexation of CTZ and β -CD is carried out using dimethylsulfoxide(DMSO) and various ratio of β -CD. We fabricated bitter taste blocked CTZ through taste perception test and the successful complexation is investigated by ¹H-NMR, 2D-ROESY, FT-IR, PXRD, FE-SEM, and PSA.