

Removal of Residual Solvents from Solvent-Induced Amorphous Paclitaxel by Alcohol Pretreatment

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Abstract

In this study, a drying method that can effectively remove residual solvents from chloroform-induced amorphous paclitaxel was developed. The simple rotary evaporation with alcohol (methanol or ethanol) pretreatment was sufficient to remove residual chloroform and alcohol concentrations below the ICH limits (60 ppm for chloroform, 3,000 ppm for methanol, and 5,000 ppm for ethanol). In addition, the SEM analysis and ultrasonic treatment showed that residual solvent removal is related to the porous structure of the sample due to the high vapor pressure of the chloroform-alcohol mixture and the hydrogen bonding between chloroform and alcohol.

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