

论文

用差热“三点法”考查水溶性维生素药物间的相互作用

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摘要:

根据物理化学原理,结合相图对相互作用分类,提出用差热“三点法”考查药物的相互作用。并用此考查了水溶性维生素药物VB₁,VB₂,VC和烟酰胺之间的相互作用,结果表明,VC与烟酰胺有较强的相互作用,且与VB₁有一定相互作用,在复合维生素BC片中,VC不宜与其它维生素配伍。用差热“三点法”考查相互作用,信息多、范围宽、准确性高,具有实用价值。本文还提出了“三点法”的简易判别法则。

关键词: 三点法 差热分析 相互作用 水溶性维生素

STUDY ON THE INTERACTION BETWEEN WATER-SOLUBLE VITAMINS BY THE“ THREE-POINT-TEST” OF DIFFERENTIAL SCANNING CALORIMETRY

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Abstract:

The physico-chemical compatibility of solid-state pharmaceuticals is mainly de-termined by their interaction. The "Three-point-test" of differential scanning calorimetry in which three samples of different ratios are determined is proposed to study this interaction, and the simplified judging rules are as follows: If there are two or less than two endotherm peaks in DSC thermogram for all 3 ratio samples, we may mainly consider the peaks at lower temperature. If these temperatures are the same, which would be monotectic system or simple eutectic mixture, there will be very weak interaction in their solid state, and these could be compatible. If the temperatures are different, which would be solid solution system or solid complex system, there would be interaction in their solid state. If there is no endotherm peak, or there are exotherm peaks or there are more than two endotherm peaks, they all indicate that there is a stronger interaction in their solid state and they are incompatible. As an example, the interaction between water-soluble vitamins-Vit B₁, Vit B₂, Vit C and nicotinamide was determined. The results indicated that only Vit C is incompatible with nicotinamide, as there is a stronger interaction, and with Vit B₁, there is a weak interaction.

Keywords: Differential scanning calorimetry Interaction Water-soluble vitamins Three-point-test

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