

 中文标题 检索 跨刊检索

基于支持向量机的中药片剂包衣质量分析

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中文摘要:目的:为片剂包衣质量建立基于支持向量机的近红外快速检测方法。方法:以乳块消片的糖衣层为研究对象,采集其包衣过程中的近红外光谱数据,以sample set partitioning based on joint x-y distance(SPXJ)法选取训练集样本,以间隔主成分分析法(internal PCA, iPCA)选择最佳波长范围,建立基于支持向量机的快速定性模型,并对不同的光谱预处理方法进行了比较。结果:预测正确率为98.81%。结论:所建模型正确率高、外推能力强,该方法可用于片剂包衣质量的快速质量评价。

中文关键词:乳块消片包衣过程 近红外光谱 支持向量机 间隔主成分分析

Analysis of Chinese medicine tablets on coating quality based on support vector machine

Abstract: A new non-destructive and rapid method was developed to discriminate the coating process of Rukuaixiao tablets mainly based on the support vector machine(SVM) with the near-infrared spectroscopy(NIRs). After the samples that differ in the sugarcoat were acquired, the sample set partitioning based on joint x-y distance(SPXJ) method was used to select the training sets and internal principal component analysis(internal PCA) was used to select the optimal wavelength. The discrimination model was developed based on support vector machine(SVM) and varieties of pre-processing methods were compared. The results showed that the accuracy of the prediction set was 98.81%. It is concluded that the accuracy of the method is high to use for the quality evaluation of tablet's coating process.

Keywords: Rukuaixiao tablet's coating process near-infrared spectroscopy(NIRs) support vector machine(SVM) internal principal component analysis(internal PCA)

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