

研究论文

用于药品质量快速检测的近红外光谱模糊神经元分类方法

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摘要 针对非线性且分类界线模糊的药品质量类别快速测定难题, 将近红外光谱分析与模糊神经网络相结合, 经研究提出近红外光谱模糊神经网络分类方法, 用于计算辨析中药等化学组成复杂药品的近红外光谱模式类别, 从而快速评定这类药品的质量. 以参麦注射液为典型分析对象, 以鉴别其生产厂家这一模式分类问题为例, 考核本文方法, 结果表明, 其分类准确率达到94.2%, 明显优于经典的BP神经网络分类方法(84.6%), 可望用于中药产品质量类别的快速检测与评价.

关键词 [药品质量评价](#) [中药分析](#) [近红外光谱](#) [模糊神经网络](#) [模糊模式分类](#)

分类号

Fuzzy Neural Network Classifier for Fast Evaluating the Quality of Chinese Traditional Medicine Products Using Near Infrared Spectroscopy

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Abstract To solve the problem of fast identifying the quality sort of chinese traditional medicine products with nonlinear and fuzzy edges of the quality sort, a new method combining near infrared spectroscopy (NIRS) with fuzzy neural network was proposed. The method can differentiate the pattern classification of NIRS of chinese traditional medicine products with complex chemical components, resulting in fast evaluating product quality. An example of distinguishing the manufacturers of Shenmai injection was used to test the performance of the proposed method. The results showed that the classification accuracy reached 94.2%, obviously better than that of classical BP neural network (84.6%). It was verified that the new method could be used for fast evaluating the quality of chinese traditional medicine products.

Key words [quality evaluation of medicine](#) [analysis of chinese traditional medicine](#) [near infrared spectroscopy \(NIRS\)](#) [fuzzy neural network](#) [fuzzy pattern classification](#)

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