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摘要：采集干烟叶的显微近红外图像，并用主成分分析方法和相关光谱成像的方式对其进行图像分解，并且比较2种图像分解方法的特点。结果表明，对于烟叶样品的显微近红外图像采用主成分分析的方法提取其特征向量，并将第二主成分特征向量与淀粉的近红外光谱对比，特征向量与标准物质光谱的相关系数达到0.9779，表明第二主成分的特征向量主要源于淀粉，第二主成分得分值图像主要代表干烟叶中淀粉的分布；干烟叶的淀粉相关光谱成像图和第二主成分得分值图像的分布形状和趋势基本一致。

关键词：近红外显微镜, 近红外图像, 化学成像

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### NIR micro-image analysis of tobacco dry leaf

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Abstract: The near-infrared micro-image of tobacco dry leaf was collected. Principal component analysis and compared correlation imaging were used to process the NIR micro image. The result suggests that the PCA method was used to extract the eigen vectors from the NIR micro-image of the tobacco dry leaf, and the 2nd eigen vector was compared with the NIR spectrum of starch, whose correlation coefficient was high up to 0.9779, which suggested that the 2nd eigen vector was derived from starch mainly; the 2nd score image showed the distribution of starch in the tobacco dry leaf mainly; both the shape and trend of the 2nd score image and the compare correlation images were similar on the whole.

Key words: Near-infrared microscope, Near-infrared micro-image, Chemical imaging

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