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摘要：本工作利用微量核磁管（2.5 mm）和常规核磁管（5 mm）对同一化合物同等质量（2 mg）两份样品进行多种核磁共振实验，对两种不同浓度下NMR信号进行分析，并利用微量样品管顺利完成对头孢硫脒的结构确认。实验结果表明：当可用于测试样品量较少时，利用微量样品管提高样品测试浓度可明显地改善核磁谱图质量；微量样品管在小样品量的NMR分析中具有潜在应用价值。

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[Effect of the solution concentration on NMR signals as a sample amount limited](#)

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Abstract: With a micro-size NMR tube (2.5 mm) and a normal size NMR tube (5 mm), different kinds of NMR tests were performed for a same compound. Since the same amount of the compound was used to prepare the above two testing samples, the concentrations of the sample solution were different between them. In this paper, the effect of the concentration on NMR Signals was investigated, and the structure of compound Cephathiamidine was confirmed using the NMR spectra obtained with the micro-size NMR tube. The results showed that when the amount of a sample was limited, the micro-size NMR tube might be preferred, since the higher concentration of the sample solution would favor the improvement of NMR spectra.

The micro-size NMR tube is a potential choice in the NMR test for the small amount of samples such as the metabolized compounds hardly separated from natural products.

Key words:

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