

电喷雾/飞行时间质谱法测定红霉素类抗生素的准确质量

胡守刚,郭寅龙,吕龙

中国科学院上海有机化学研究所.上海(200032)

收稿日期 修回日期 网络版发布日期 接受日期

摘要 研究了聚乙二醇(PEG)为内标物的电喷雾(ESI)/飞行时间质谱(TOF-MS)准确质量测定方法,并应用于5个红霉素类抗生素质子化分子离子(MH⁺)的质量测定。与理论值相比,相对误差均在5×10⁻⁶

以内。PEG可与K⁺, Na⁺, H⁺等形成三种加合离子形式,通过选择适当的实验条件,

控制PEG仅以其中的一种加合离子形式出现,这一特点扩大了其应用范围,

使之可作为一种普适性的内标物。另外讨论了扫描质量范围、扫描速度等因素对测定结果的影响,

并且比较了采用多峰校正法和两峰校正法的结果。结果表明,

以PEG为内标的ESI/TOF质谱法可对不稳定碱性化合物的化分子离子(MH⁺)进行准确质量测定,而且简便、快速。

关键词 [飞行时间质谱法](#) [红霉素](#) [抗生素](#) [电喷雾](#)

分类号 [0621](#)

Determination of the accurate mass of erythromycin analogue antibiotic by electrospray ionization/time-of-flight mass spectrometry

Hu Shougang, Guo Yinlong, Lu Long

Shanghai Inst Organ Chem., CAS. Shanghai(200032)

Abstract Using polyethylene glycol (PEG) as internal reference, electrospray ionization (ESI)/time-of-flight mass spectrometry (TOF-MS) was developed to determine the accurate mass of the protonated molecular ions of five erythromycin analogue antibiotics. Compared with the theoretical values, all relative errors were less than 5×10⁻⁶. PEG can form three adduct ions with K⁺, Na⁺, H⁺, respectively, and may appear with single kind of adduct ions in suitable experiment conditions. PEG was recommended as a general internal reference compound. Besides, two-peak calibration is preferred to the multi-peak calibration. Scan mass width and scan speed were also studied, 104~144amu 5 seconds was recommended. Using polyethylene glycol(PEG) as internal reference, ESI/TOF mass spectrometry can determine the accurate mass of the protonated molecular ions of the unsteady basic compounds. This method is simple and expeditious.

Key words [TIME-OFF FLIGHT MASS SPECTROMETRY](#) [ERYTHROMYCINUM](#) [ANTIBIOTICS](#)

DOI:

通讯作者

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(0KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“飞行时间质谱法”的相关文章](#)

▶ 本文作者相关文章

· [胡守刚](#)

· [郭寅龙](#)

· [吕龙](#)