

天然产物的质谱研究V.负离子快原子轰击及其碰撞活化质谱法在寡糖苷结构分析中的应用

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摘要 研究了八种含1—3个糖基的糖苷的负离子快原子轰击(NFAB)质谱,NFAB质谱与相应的正离子谱(PFAB)比较,在高质量区示出较明显的准分子离子[M-H]⁻峰而无加合离子峰,从而能较明确指示糖苷的分子量,在所试验的三种底物甘油、硫代甘油和聚乙二醇-200(PEG-200)中,以PEG-200给出的结果最佳,[M-H]⁻离子的碰撞活化谱(NFAB-CA谱)产生的特征离子比[M+H]⁺离子PFAB-CA谱中相应离子的丰度大,能更为明确地给出糖基连接顺序信息。

关键词 [分子量](#) [质谱法](#) [葡萄糖](#) [甾族化合物](#) [糖苷](#) [结构分析](#) [阴离子](#) [离子碰撞](#) [鼠李糖](#) [快原子轰击](#) [寡糖](#) [碰撞](#)

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Studies on the mass spectrometry of natural products V. negative fast atom bombardment and collisional activation mass spectrometry in the structural analysis of oligoglycosides

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Abstract The neg. ion FAB (NFAB) mass spectra of eight glycosides (saponins) containing one to three sugar units have been studied. On comparison of the mass spectra of NFAB with the corresponding pos. ion FAB (PFAB) spectra, it was shown that the former exhibited a more predominant quasi-mol. ions [M - H]⁻ and thus gave more definite information about mol. wt. of the sample than the latter. Among the three matrix substances tested, glycerol, thioglycerol and polyethylene glycol-200, the last one gave the best results. The collisional activation spectra of the mass selected ion [M - H]⁻(NFAB-CA) gave a series of characteristic fragments ions which were useful for determination of the sugar sequences of the glycosides. The patterns of the NFAB-CA spectra were more clear than that of the PFAB-CA spectra, thus gave a more definite conclusion about the sequences. Contrary to the PFAB-CA spectra, in which there was usually a strong peak of the aglycon residue ion, in the NFAB-CA spectra, however, such an ion peak was absent. Therefore, for structural anal. of oligoglycosides, it would be better to take both of these two types of mass spectra together.

Key words [MOLECULAR WEIGHT](#) [MASS SPECTROGRAPHY](#) [GLUCOSE](#) [STEROIDS](#) [GLYCOSIDE](#) [STRUCTURAL ANALYSIS](#) [ANION](#) [ION COLLISIONS](#) [RHAMNOSE](#) [FAST ATOM BOMBARDMENT](#) [OLIGOSACCHARIDE](#) [COLLISON](#)

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