

氨基酸衍生物PMV, PML和PMA的电喷雾质谱研究

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摘要 应用电喷雾 (ESI) 质谱及其多级串联质谱 (MS~n) 技术研究了三个氨基酸衍生物N-(N-亚甲基-2-吡咯烷酮)-缬氨酸 (PMV), N, N-二-(N-亚甲基-2-吡咯烷酮)-亮氨酸 (PML) 和N, N-二-(N-亚甲基-2-吡咯烷酮)-β-丙氨酸 (PMA) 在电喷雾条件下的质谱行为。在此条件下三个氨基酸衍生物PMV,

PML和PMA可以质子化形式PMVH~+, PMLH~+和PMAH~+存在,

并且检测到它们的Na~+和K~+的加合物。在电喷雾条件下PMV, PML和PMA优先采取C-N键的断裂,

并且通过分子间的氢键作用形成了许多二聚和三聚物种。

关键词 [质谱法](#) [氨基酸](#) [吡咯烷酮](#) [P](#) [缬氨酸](#) [亮氨酸](#)

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## Electrospray Ionization Mass Spectra of Amino Acid Derivatives PMV, PML and PMA

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**Abstract** The mass spectrometric behaviors of N-(2-oxopyrrolidin-1-ylmethyl)-valine (PMV), N, N-bis(2-oxopyrrolidin-1-ylmethyl)-β-alanine (PMA) and N, N-bis(2-oxopyrrolidin-1-ylmethyl)-leucine (PML) were studied under electrospray ionization condition by multi-stage mass spectrometric (MS~n) experiments. Under this electrospray ionization condition, protonation forms of PMV, PML and PMA were observed, respectively, and their Na~+ and K~+ adducts were also detected. These three compounds followed the fragmentation passway with die preferential sequence relating to the cleavage of C-N bonds, and numerous dimer and trimer ions via hydrogen bonding interaction were formed under the experimental condition.

**Key words** [MASS SPECTROGRAPHY](#) [AMINO ACID](#) [PYRROLIDONE](#) [P](#) [VALINE](#) [LEUCINE](#)

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