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Elimination Technique for Alkali Metal Ion Adducts from an Electrospray Ionization Process Using an On-line Ion Suppressor

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The effects of an on-line ion suppressor device on alkali metal ion adduct formations of the model compound tacrolimus were investigated. The base peak ion in the positive ion ESI-MS spectrum of tacrolimus was a sodium ion adduct, $[M+Na]^+$. On the other hand, an ammonium ion adduct, $[M+NH_4]^+$, was the base peak ion in the full-scan mass spectrum of tacrolimus with a cation-exchange suppressor resin, and both $[M+Na]^+$ and $[M+K]^+$ were eliminated. These results indicate that the combination of an on-line ion suppressor with ESI-MS is a simple and effective technique that eliminates undesirable alkali metal ion adduct formations in the positive-ion mode.

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