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Complications of adduct ions on MRM at different LC-MS/MS ionization techniques

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For the triple quadrupole LC-MS/MS instrument, the primary purpose or the most significant feature is the highest sensitivity among almost all, if not all, of the LC-MS/MS instruments by doing the Multiple Reaction Monitoring (MRM) testing. The ionization of a chemical in LC-MS/MS could be done with different ionization modes. The common ones are Electron Spray Ionization (ESI), the Atmospheric Pressure Chemical Ionization (APCI), and the Atmospheric Pressure Photo Ionization (APPI). The species and amount of adduct ions produced at each mode are quite different. Some type of the adduct ions may complicate the MRM testing by decreasing the sensitivities while some other adduct ions may prevent any reliable MRM testing. This research is going to do investigation on the differences of the types of adduct ions produced, and the amount of adduct ions produced at different ionization techniques. Some examples will be presented to show how the adduct ions may complicate the MRM testing, and the best ionization mode for some type of the targeted chemicals.

Biography

Wenjie Cao is a Staff Scientist of the Analytical at the SABIC Technology Center at Riyadh. He received his PhD from Professor John Calvin Giddings' Group at the University of Utah. His PhD research was on polymer separation and characterization by Thermal Field-Flow Fractionation. He was working for DuPont as a Research Investigator for four years before joined SABIC in 2012. He was a contributor to the book of the "*Encyclopedia of Chromatography*". He has more than eighteen publications and presentations in peer-reviewed scientific journals and international conferences. He has filed five patents since he joined SABIC in 2012.

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