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Analytical study on ethephon residue determination in water by ion-pairing liquid chromatography/tandem mass spectrometry

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Abstra[...]

A detaile[...]king use of ion-pairi[...]ectrometry (LC/MS/[...]hly polar, whic[...] character. Both[...]atographic retentio[...]en tested including[...]ase extracti[...]off-line SPE, using Oa[...]ing several ion-pairi[...]is was added t[...]matographic retention. The acquisition of several specific MS/MS transitions together with the

evaluation of their relative intensity ratios allowed the reliable confirmation of the analyte in samples. The optimised approach was tested in low-salinity water spiked at 0.1 µg L^{-1} level with satisfactory recovery, and a limit of detection of 0.02 µg L^{-1}. To this purpose, the water sample was partially de-ionised in an initial stage, in order to remove major ions that would have interfered in analyses. The application of this methodology to more saline/complex water samples, as surface or wastewater, was problematic and a thorough optimisation of the de-ionisation conditions would be required.

Keywords: ethephon | ion-pairing liquid chromatography | tandem mass spectrometry | tetrabuthylammonium, water analysis

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