Applications of Two-Dimensional Fourier Transform Ion Cyclotron Resonance Mass Spectrometry

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Overview

Two-Dimensional Fourier Transform Ion Cyclotron Resonance Mass Spectrometry

We recorded the 2D mass spectra of cholesterol using Atmospheric Pressure Ionisation interfaces in the ICR mass spectrometer.

We recorded the positive mode 2D mass spectra of a tryptic digest of cytochrome C using both ECD and IRMPD as fragmentation modes.

In the context of 2D FT ICR MS to continuous ion sources other than API, we observe the fragmentation patterns of ion species that are not listed in the chromatogram provided by the supplier.

The isotopic distribution of the fragment yields (z) gives us more accurate information on fragmentation mechanisms.

Results and Discussion

We have expanded the capabilities of 2D FT ICR MS to continuous ion sources other than API and EI and allowed us to use APPI as ion source.

2D ICR mass spectra lead to a much lower detection limit for 1 Da than for 2D FT ICR MS.

Conclusions

We have expanded the capabilities of 2D FT ICR MS to continuous ion sources other than API and EI and allowed us to use APPI as ion source.

2D ICR mass spectra lead to a much lower detection limit for 1 Da than for 2D FT ICR MS.

References

[1] M.A. van Agthoven et al., manuscript submitted.