

Plynová chromatografie od FID po Orbitrap



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pragolab

Thermo
SCIENTIFIC

Iontová Chromatografie



- Absolutní jednička na trhu
- Kapilární i standardní systémy
- **Chromeleon**

Kapalinová Chromatografie



- Nejširší aplikační záběr
- Ultra HPLC nejvyšší třídy i standardní systémy
- **Chromeleon**

Plynová Chromatografie



- Flexibilita – výměnné moduly
- Špičková GC-MS technika
- **Chromeleon**

Nabídka



TRACE 1300



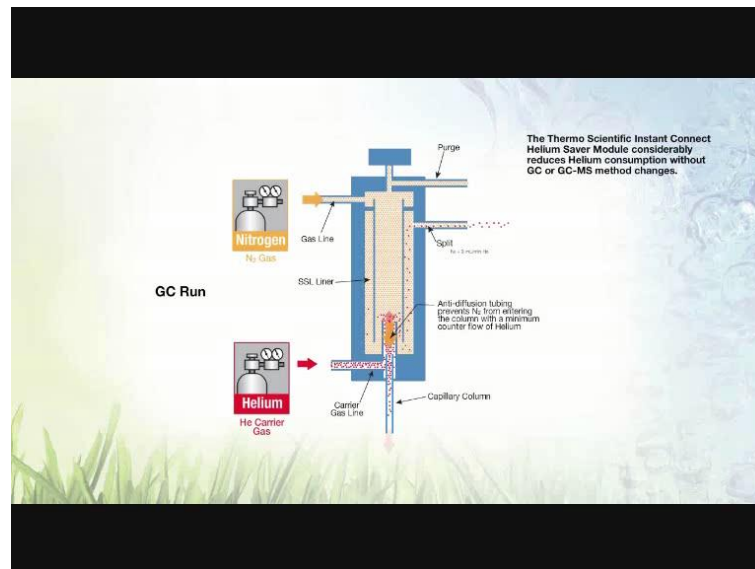
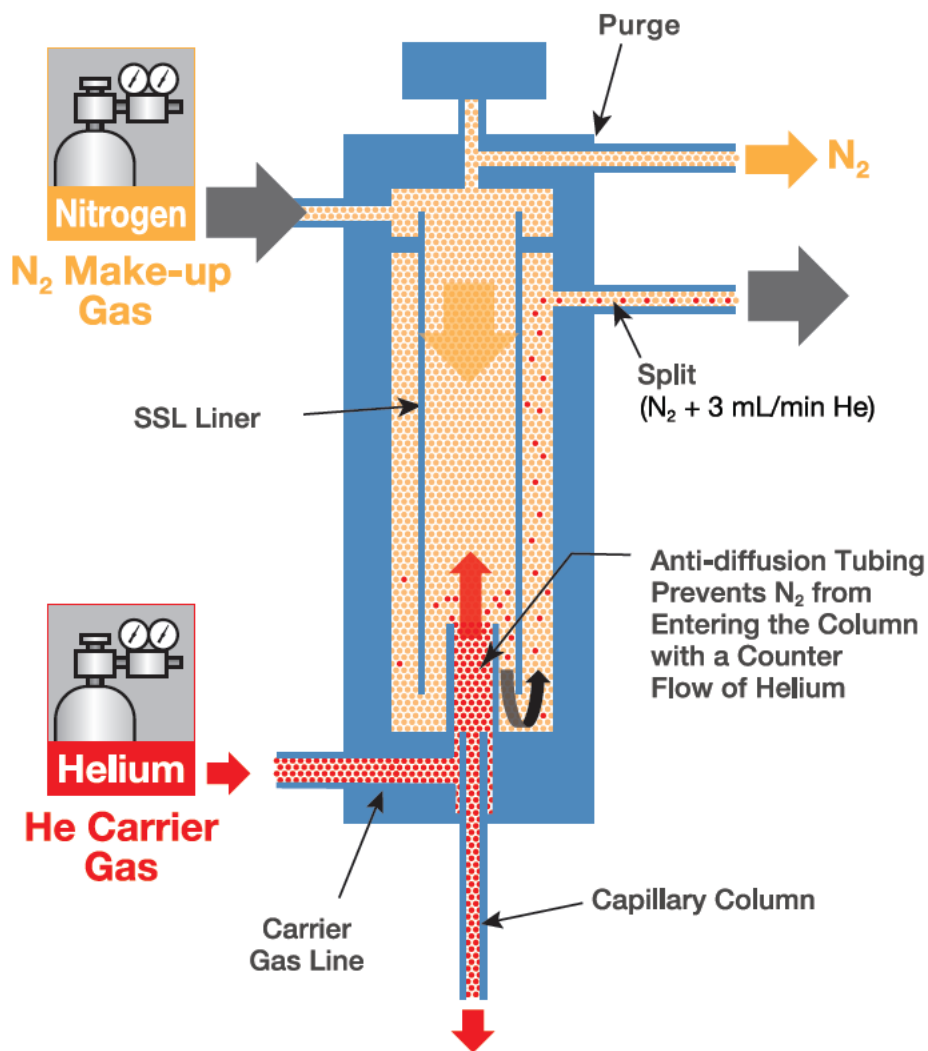
NEW



Patent Pending



Helium saver modul

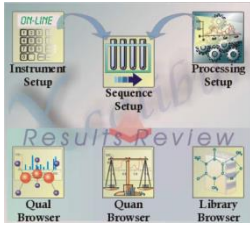


Helium Saver Extends the Lifetime of the Helium Cylinder

- 3.5 years continuously used 24/7/365 for GC-MS analysis
- 5.4 years shutting helium off or to N₂ during weekends
- 10.5 years shutting helium off or to N₂ overnight (8 hr day)
- 14.6 years shutting helium off or to N₂ on weekends and overnight

This could be the **last and only** helium cylinder that will be needed for the lifetime of the instrument





HRMS-orbitrap

QqQ



Q



Chromeleon

Jednoduchý kvadrupol



ISQ QD

Single Quadrupole Mass Spectrometer



ISQ LT

Single Quadrupole Mass Spectrometer



Chromeleon

TraceFinder



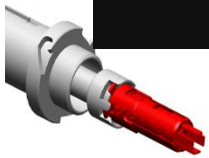
Iontový zdroj

Výměna a čištění iontového zdroje
bez nutnosti porušení vakua



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Vyjmutí iontového zdroje

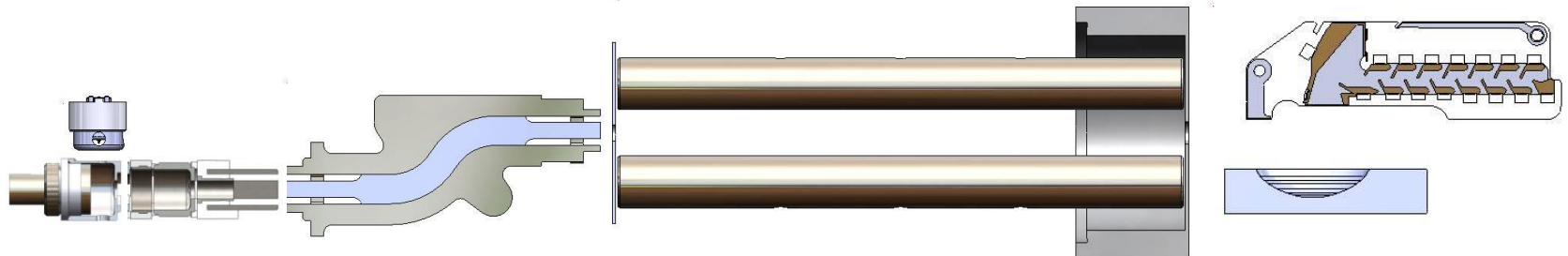
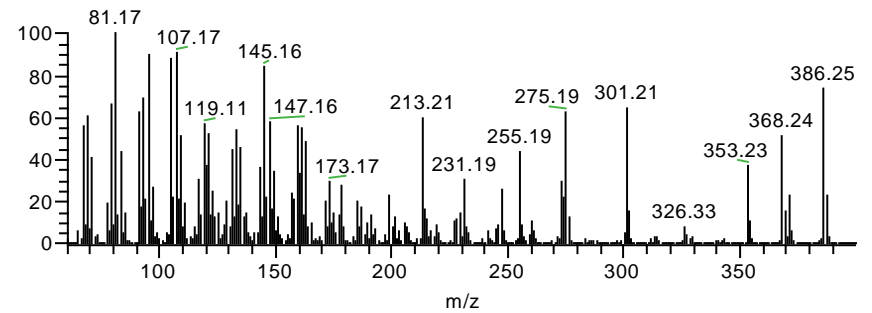
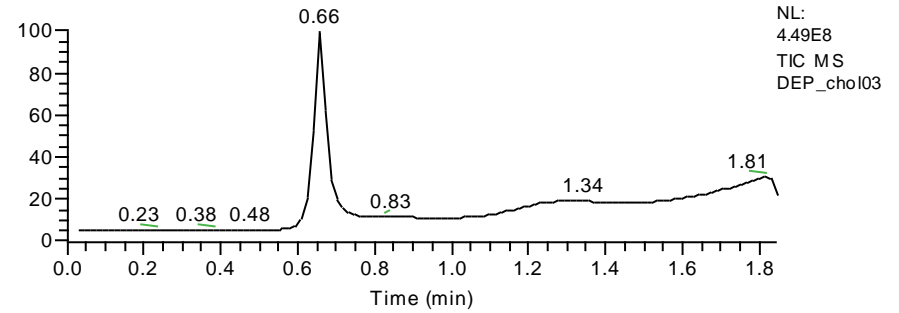
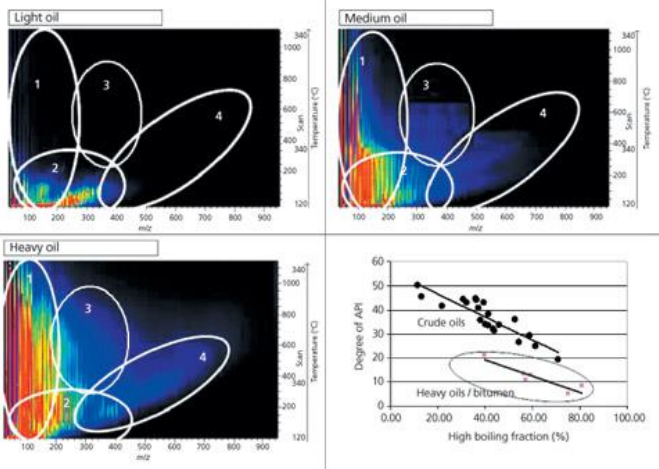


DIP/DEP Sony

C:\Documents and Settings...

3/22/2010 5:07:52 PM

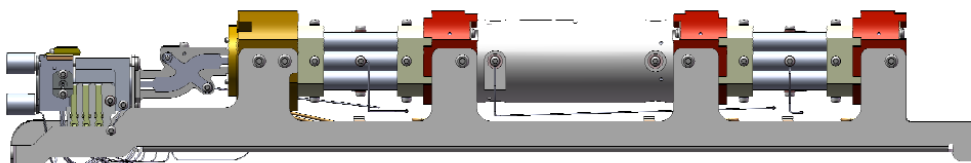
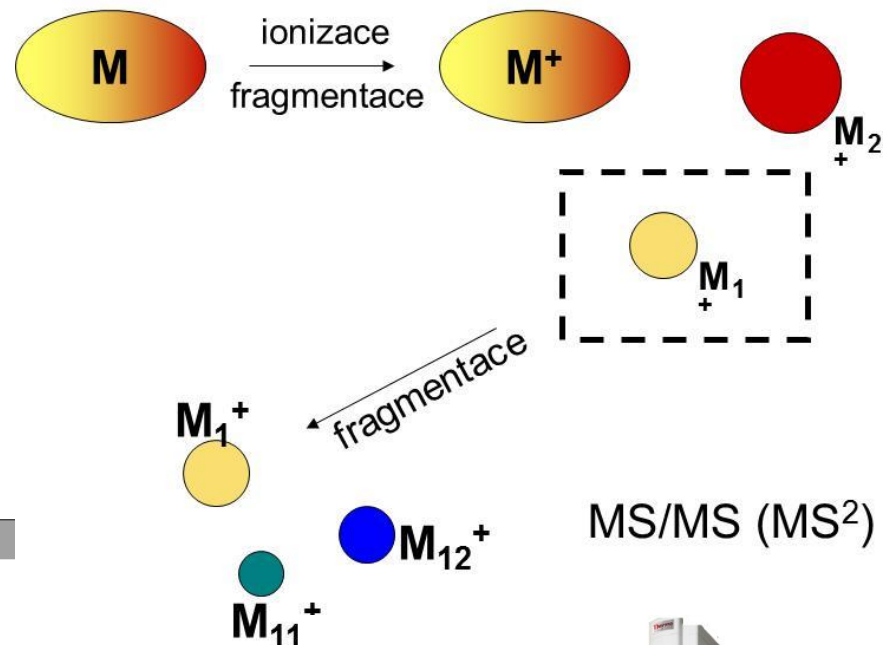
Direct Probes sondy *ISQ LT*



Nový trojitý kvadrupol

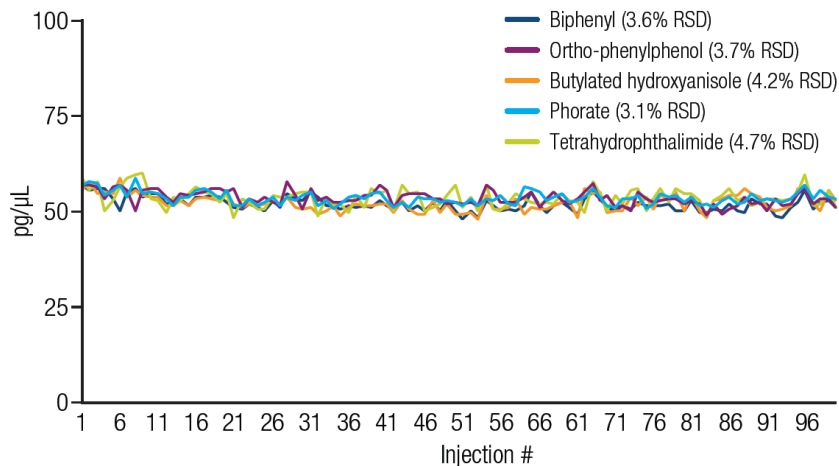


QqQ systém pro cílenou analýzu



TSQ 8000 Evo

Robustness Cold Pressed Orange Oil (external standard calibration)



ExtractaBrite Source

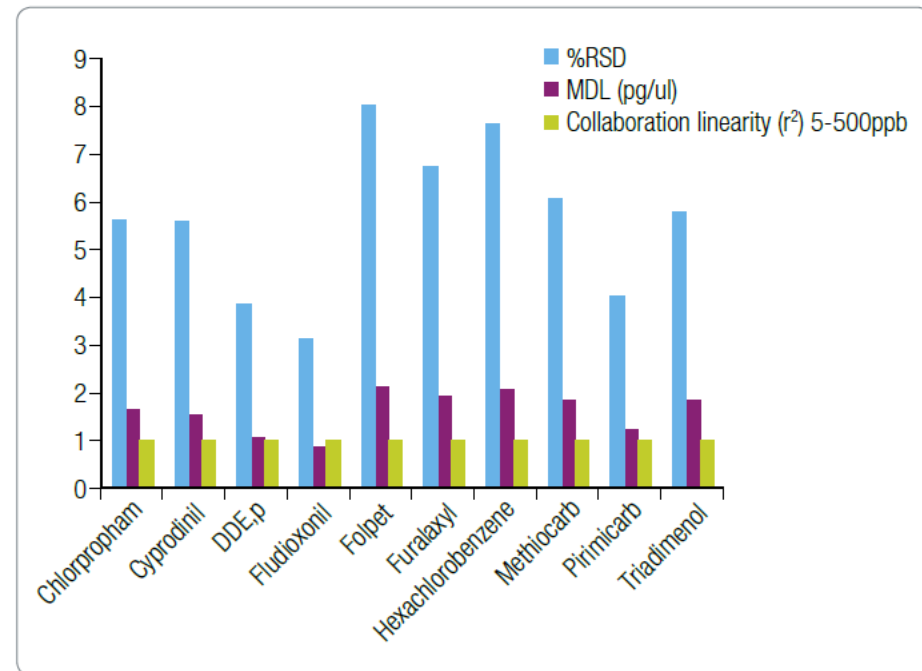
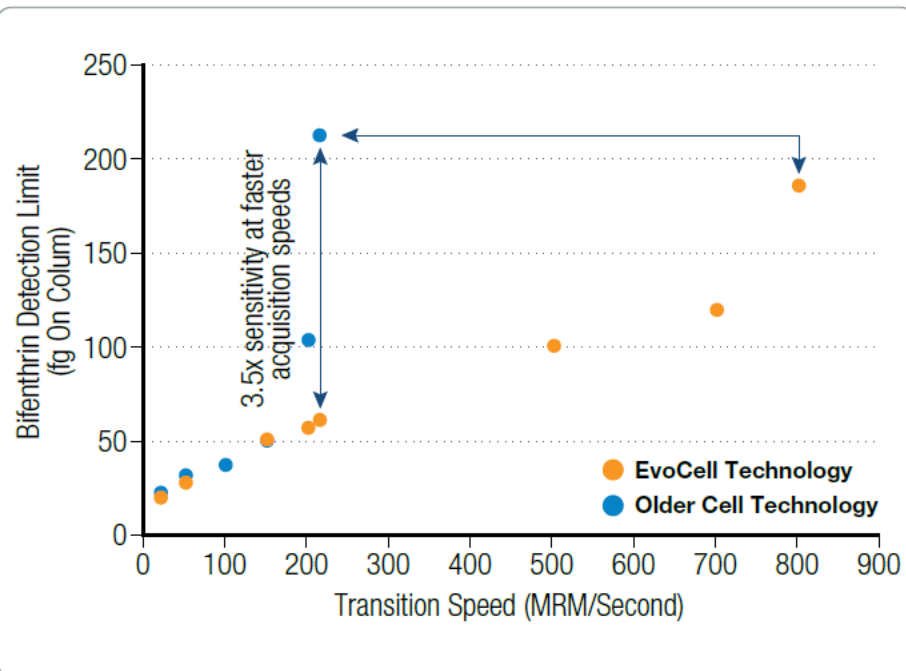


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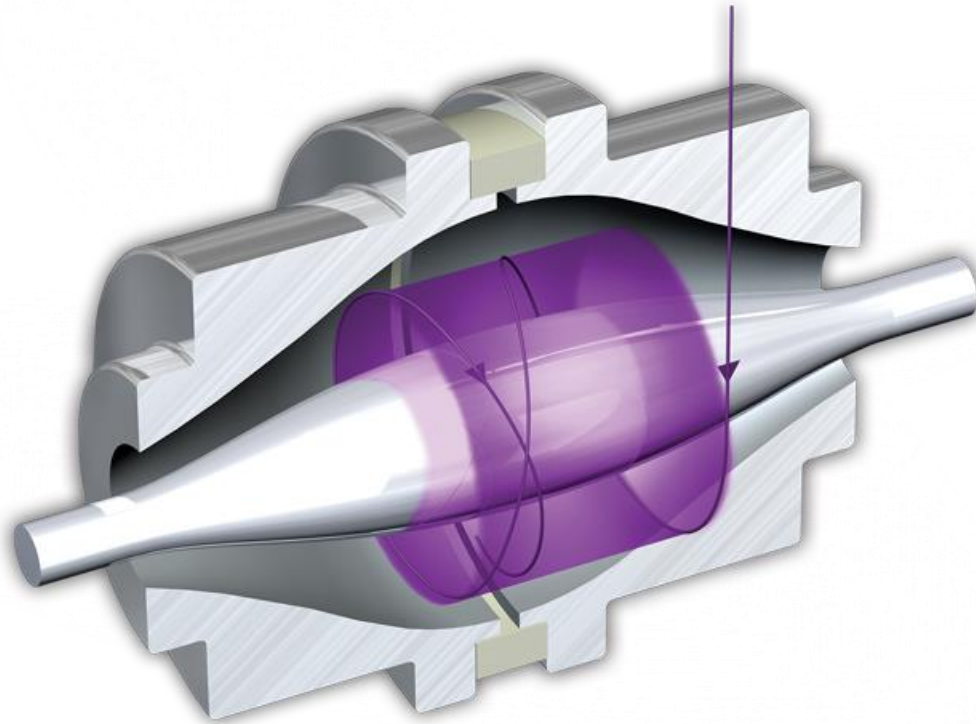
QqQ SYSTEM TSQ 8000 Evo



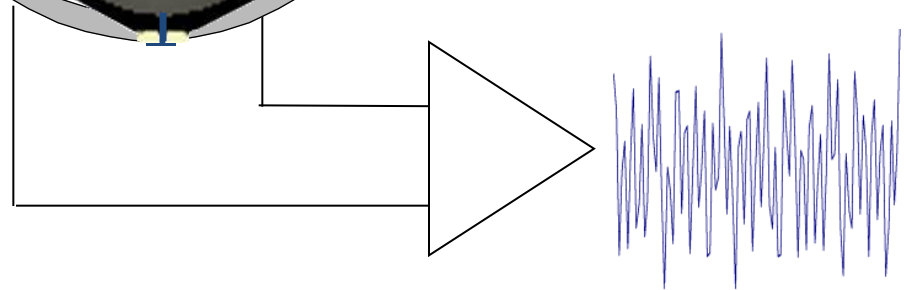
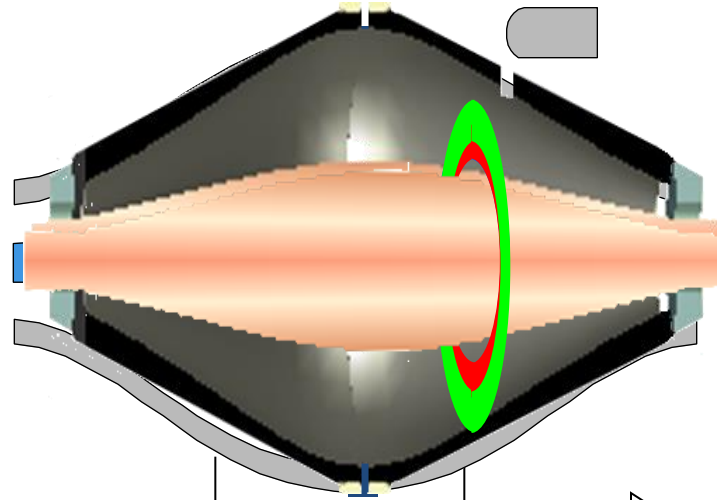
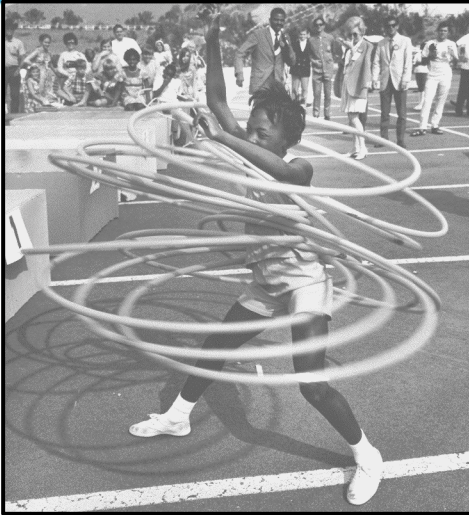
Enhanced Velocity Optics



Pittcon 2015 – GC Orbitrap



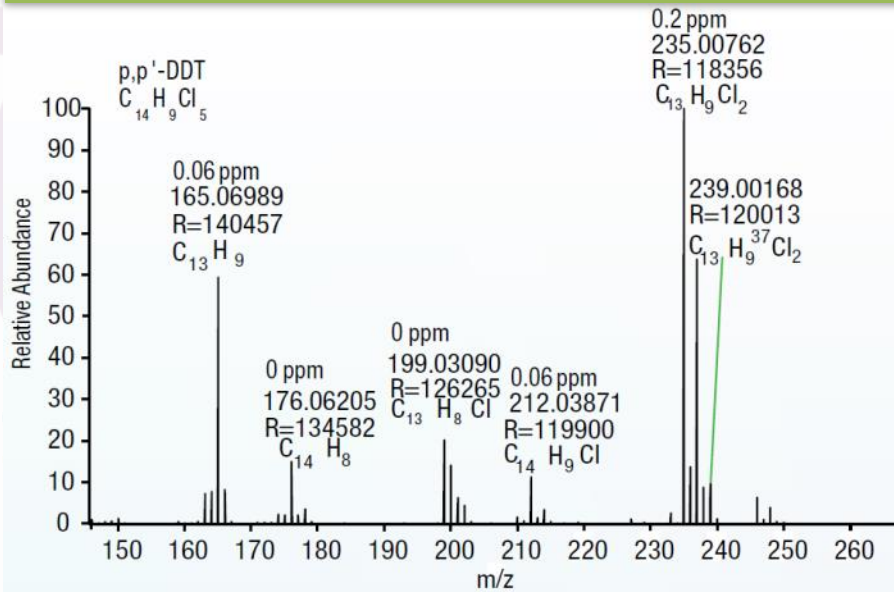
Jak pracuje?



- ionty v orbitrapu generují komplexní signál, který je zpracován pomocí Fourierovy transformace

Průlom v GC-MS

Maximální selektivita



- až 120k @ m/z 200
- Skvělá selektivita v komplexní matici
- Vysoké rozlišení
- Rychlé skenování

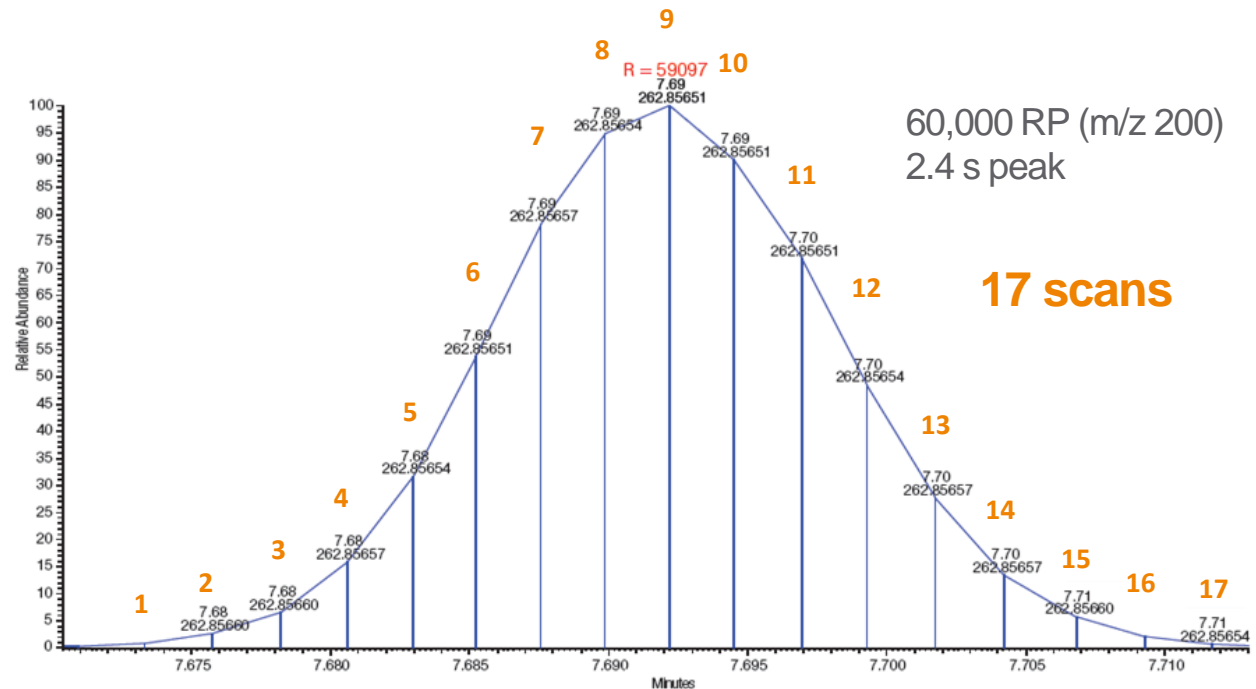
Průlom v GC-MS

Vysoká selektivita

Rychlý sběr dat

- důležité pro přený popis píku
- Full scan s rozlišením 60 (FWHM @ m/z 200) - **17 scans na pík**
- Dostatečná rychlost pro GC!

XIC of dieldrin in baby food (m/z 262.85642) 100ppb

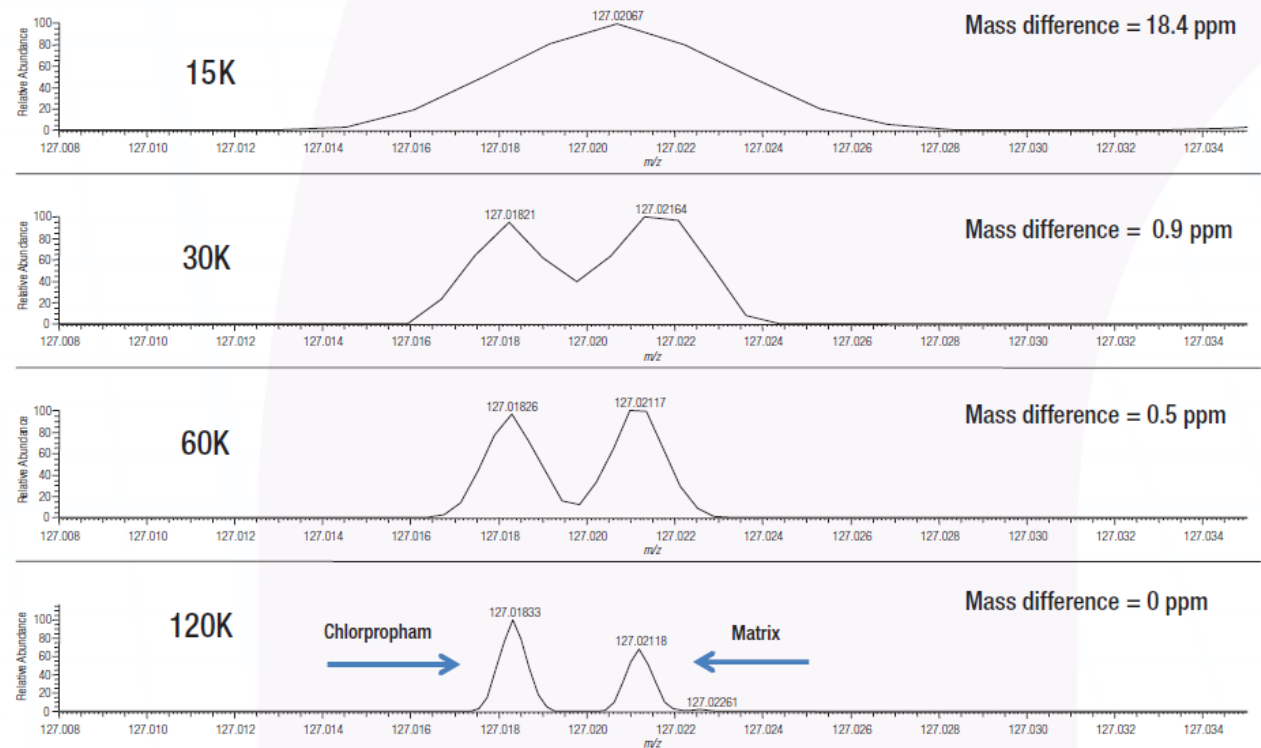


Průlom v GC-MS

Vysoká selektivita

Chlorprophram

- 10 ng/g QuEChERS extract of leek
- Full scan s rozlišením >30k (FWHM @ m/z 200) – detekce bez interferencí
- Skvělá přesnost hmoty



Bez rušení vakua

CHEMICKÁ IONIZACE



Výměna iontového zdroje do 2 minut

...



Thermo Scientific Q Exactive GC Hybrid Quadrupole-Orbitrap GC-MS/MS System

Unprecedented Depth in GC-MS Analysis





Děkuji za pozornost!