

Other products from MS Horizons

- ❖ **Grid Upgrade** Increase sensitivity by a factor of three by switching to high transmission grids.
- ❖ **Nanospray Sample Stage** Robust high precision sample stage for superior electrospray control.
- ❖ **Active-Drive™** gas cells for enhanced function switching and MRM experiments.
(MS Horizons patent pending)
- ❖ **Charge-Scan™** ion mobility device for improved signal to noise and charge filtering.
Invaluable for proteomics.
(MS Horizons patent pending)

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Interested in the big stuff? Then make it easier with a High Mass Upgrade!

MS Horizons

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**Q-TOF and Quattro
High Mass Upgrades**

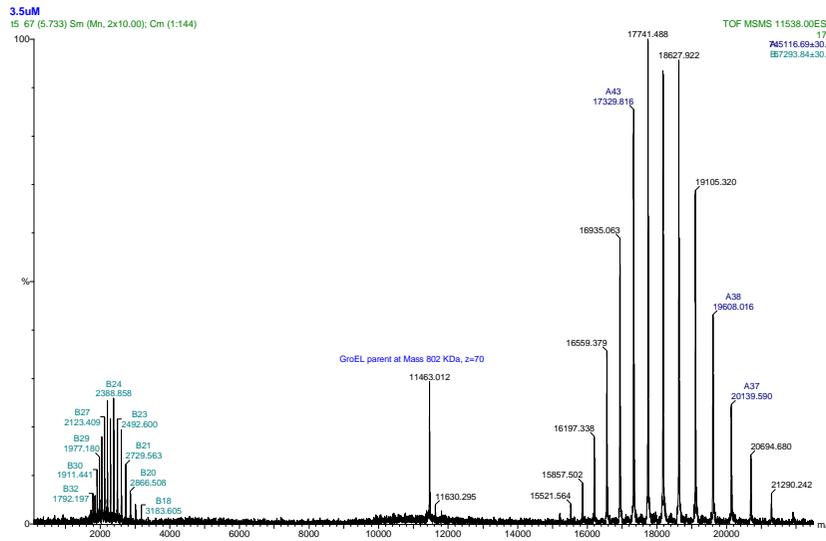
A High Mass Upgrade allows you to see the big picture....

The interest in macromolecular complexes has increased dramatically in recent years. The study of intact proteins and their function in non-covalently bound complexes is providing more information about complicated biological systems.

Large protein complexes can be transferred into the gas phase intact using nano-electrospray ionisation and their stoichiometry investigated using mass spectrometry. Now you are able to perform these experiments yourself without the cost of buying a new instrument.

MS Horizons offer upgrades to existing Q-Tof and triple quadrupole instruments to enable them to carry out such work.

High Mass Quadrupole MS/MS Spectrum



MS/MS spectrum of GroEL consisting of 14 subunits, showing the ejection of one of the subunits.

With the High Mass Upgrade you will be able to:

- Select and acquire ions up to 30 000 m/z compared to the standard cut off of 4000 m/z. This means that large macromolecules such as GroEL which is 800 kDa can be analyzed - see MS/MS spectrum above (data courtesy of the laboratory of Albert Heck, Utrecht University).
- Study large non-covalently bound complexes with maximum transmission and stability due to the fitting of a localised sleeve around the source hexapole.
- Perform MS/MS experiments on large complexes even at high collision energies to attain the most amount of information.

The High Mass Upgrade package contains a new high mass rf generator and control board, pressure sleeve for the source hexapole and modifications to the gas cell to increase the collision gas pressure to allow full thermalisation of large macromolecules. The package is fitted by a specially trained engineer with a minimum of instrument downtime. No modification to software is necessary.

The High Mass Upgrade is available for all Waters Q-TOFs as well as Quattro LC & Ultima instruments.

Please contact your local sales representative (details available at www.mshorizons.com) or MS Horizons directly via phone or email for more information and a quotation with no obligations.