



## Q-ToF HIGH MASS UPGRADE

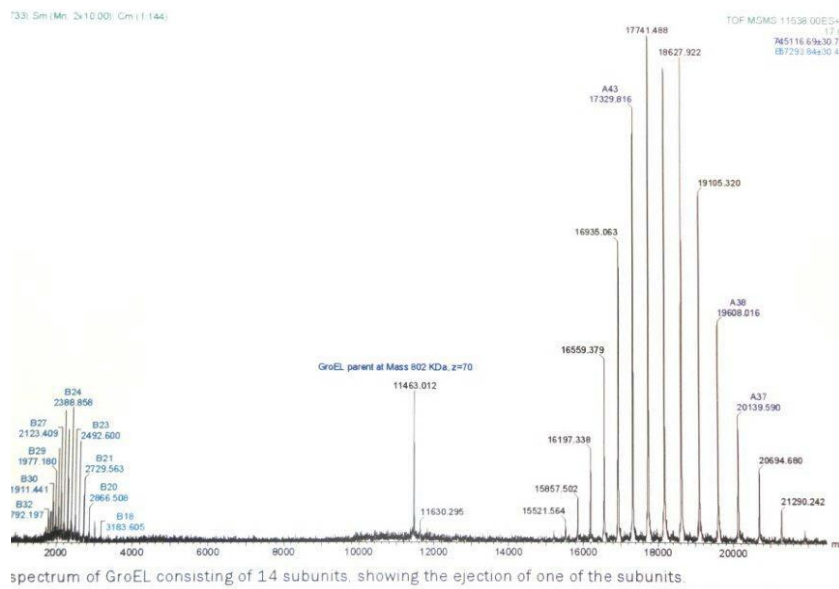
### GET THE BIG PICTURE.....

Interest in macromolecular complexes has increased considerably over recent years. The study of intact proteins in non-covalently bound complexes is providing more detailed information about biological systems and their function. Large protein complexes can be transferred intact into the gas phase using nano-electrospray ionization and their stoichiometry investigated using mass spectrometry.

Access to this growing field of interest is available without the need to purchase expensive new instrumentation. Mass Spec Service Solutions offers upgrades to existing Q-ToF instruments to enable them to perform such work.

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 4 000 m/z. This means that large macromolecules such as GroEL which is 800kDa can be analysed – see MS/MS spectrum below ( data courtesy of Prof Albert Heck, Utrecht University).
- Study large non-covalently bound complexes with maximum transmission and stability enabled by the provision of a localized sleeve fitted around the source hexapole.
- Perform MS/MS experiments on large complexes even at high collision energies to maximise the amount of information on molecular structure.



The Mass Spec Service Solutions 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 the minimum of instrument down time. No modification to software is required. The High Mass Upgrade is available for all Micromass/Waters Q-ToFs as well as Quattro LC and Ultima instruments



## High Precision Electrospray Stage

The Mass Spec Service Solutions high precision electrospray sample stage is suitable for all Micromass sprayer mounting blocks. It consists of a top quality graduated micrometer driven stage ensuring repeatable spray needle positioning in the X,Y and Z planes. The large, ergonomically designed knobs allow for smooth precise action and the stage can be swiftly pulled out to permit quick and easy needle changes.

- Eliminates wobbly and erratic movements while trying to break the tip of a nanospray needle, just smooth and precise control.
- No more need to guess where the optimum emitter position might be, just read the graduated knobs setting and the same position can be used time after time.



Mass Spec Service Solutions upgrades can bring your mass spectrometer up to or beyond the performance of the latest MS instrumentation for a fraction of the cost of a new one.

With our extensive stock of spares and components Mass Spec Service Solutions can service and maintain your instrument way into the future and at affordable cost.

We also supply and install refurbished, fully warranted Waters/Micromass MS instruments and provide operator training.

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