XEVO QTof MS

The Xevo™ QTof MS is a highly advanced mass spectrometer designed with the Engineered Simplicity™ to deliver superior analytical capability to the widest range of scientists.

INSTRUMENT SPECIFICATIONS

Tof Mass Resolution

Positive ion	> 10,000 FWHM measured on the $(M+6H)^{6+}$ isotope cluster from bovine insulin (m/z 956).
Negative ion	> 10,000 FWHM measured on the $(M-4H)^{4-}$ isotope cluster from bovine insulin (m/z 1431).

MS Sensitivity

Positive ion	The peak at m/z 556 from a solution of 25 pg/µL leucine enkephalin in 50/50 acetonitrile/water + 0.1% formic acid, infused at a flow rate of 5 µL/min, will have an intensity of greater than 1700 counts per second. The instrument will be tuned to 10,000 resolution (as demonstrated on bovine insulin) and the mass range will be set to 1000 Da.
Negative ion	The peak at m/z 503 from a solution of 250 pg/µL raffinose in 70/30 acetonitrile/water (no additives), infused at a flow rate of 5 µL/min, will have an intensity of greater than 1800 counts per second. The instrument will be tuned to 10,000 resolution (as demonstrated on bovine insulin), and the mass range will be set to 1000 Da.

MS/MS Sensitivity

Positive ion	Using a [Glu] -Fibrinopeptide B solution of 50 fmol/µL, at a flow rate of 5 µL/min and with the instrument tuned for 10,000 resolution (as demonstrated on bovine insulin), the intensity of the most intense y" sequence ion from the MS/MS spectrum of the doubly charged precursor ion (785.8 Da) will be greater than 130 counts per second. The instrument mass range will be set to 2000 Da.
Negative ion	Using a solution of 250 pg/µL raffinose in 70/30 acetonitrile/water, at a flow rate of 5 µL/min and with the instrument tuned for 10,000 resolution (as demonstrated on bovine insulin), the intensity of the fragment ion at 179.1 Da in the MS/MS spectrum of the precursor ion at 503.2 Da will be greater than 130 counts per second. The instrument mass range will be set to 1000 Da.
Mass calibration accuracy	The mass measurement accuracy of the instrument, using an internal lockmass, is such that the RMS error between the measured and the accepted masses of peaks which have sufficient intensity, and are free of interference from other masses, will be less than 2 ppm over the range 150 to 900 Da.
Mass range	The TOF mass range is 20 to 100,000 Da. The quadrupole mass range is 20 to 4000 Da in resolving mode and 20 to 16,000 Da in non-resolving mode.
Acquisition rate	Spectra can be acquired at a rate of 20 per sec, giving a maximum rate of 10 per sec in pDRE mode. Conditions: inter-scan time 20 ms (centroid or continuum) mass range 100 to 1000 Da, single spray source.

Dynamic range	The dynamic range, defined as the range of peak intensities that will give better than 3 ppm accurate mass (95% confidence) for 10 sec of data, is at least four orders of magnitude when measured on the m/z 556.2771 peak from leucine enkephalin.
Isotope ratios	In the molecular ion isotope cluster of leucine enkephalin, the [M+H+1]+ isotope will have an intensity of 33.8 (± 1.0)%, the [M+H+2]+ isotope will have an intensity of 6.9 (± 1.0) %, and the [M+H+3]+ isotope will have an intensity of 1.1 (± 1.0) %, all measured with respect to the intensity of the [M+H]+ isotope at 556.277 Da. The peaks must be free of interference from other masses. Peak intensities must be below the DDTC (Digital Dead Time Correction) limit.

Waters

THE SCIENCE OF WHAT'S POSSIBLE.™

November 2008 720002852EN PC-PDF

Waters Corporation
34 Maple Street
Milford, MA 01757 U.S.A.
T: 1 508 478 2000
F: 1 508 872 1990
www.waters.com