

FT-ICR Mass Spectrometry

Fourier transform ion cyclotron resonance (FT-ICR) is the highest performance mass spectrometry technique available, offering unrivalled resolution and mass accuracy. The instrument at Birmingham also offers unique techniques for ion manipulation and fragmentation thus providing structural information.

Our instrument, the LTQ FT Ultra, is a hybrid mass spectrometer combining a 7 Tesla FT-ICR with a front-end linear ion trap. The instrument offers ultrahigh resolution (up to 750,000 at m/z 400) and sub-ppm mass accuracy, both of which are essential for the analysis of complex mixtures such as those encountered in metabolomics. The instrument has attomolar sensitivity for peptides and a m/z range of 50-4000.

The LTQ FT Ultra is coupled to a Triversa Nanomate (Advion) chip-based electrospray system. Both nano and capillary flow on-line LC are available.

Tandem mass spectrometry capabilities include electron capture dissociation (ECD), collision induced dissociation (CID) and infrared multiphoton dissociation (IRMPD).

