

## A NEW HIGH PERFORMANCE DEVICE FOR MOLECULES ANALYSIS

The ChemoSens Platform has just acquired a high resolution mass spectrometer, the Tribrid Fusion Orbitrap. This equipment was funded by the Burgundy and Franche-Comté Region and the FEDER (European Funds for Regional Development), as well as by INRA and the ChemoSens Platform.

Mass Spectrometry is a technique that allows the molecules present in a substance (foods, tissues, biological liquids...) or purified molecules to be detected, identified and quantified. The principle of this analysis consists of ionizing the molecules (*i.e.* adding or removing an electrical charge). The ions are then subjected to an electric and magnetic field in order to be separated according to their mass-to-charge ratio. Finally, the ions are detected and identified by detectors.

The mass spectrometer acquired by the CSGA is endowed with three different means of fragmentation and three analytical systems, all of which mean that the machine is of high resolution, extremely powerful and flexible. Furthermore, it is coupled to Liquid-phase Chromatography, allowing molecules in a complex mixture to be separated from each other before their analysis by mass spectrometry.

In the context of CSGA researches carried on salivary proteins and olfactory mucus, this mass spectrometer will be used to determine the conformations of the proteins implicated in the perception of tastants and odorants. This machine will also be used for researches on retinal lipids, as well as on the control of olfactory receptor activity within lipid membrane structure. More generally, this machine could be used by other public or private laboratories in the context of collaborative projects or to assure service provisions.

### Contact

Olivier Berdeaux,  
[olivier.berdeaux@inra.fr](mailto:olivier.berdeaux@inra.fr)

### To know more

<http://www.chemosens.fr/>

### Key words

Mass spectrometry; equipment;  
flavor; aroma; lipid; molecule;  
chemical analysis

