**System:**
HPLC Agilent 1100 Series and Auto-sampler G 1329A ALS 1200 Series with Frizzier G1330B FC/ALS Therm

**Detectors:**
- UV detector
- Ion Trap MS Esquire 3000 Plus (Bruker Daltonics) Detector equipped with Electro-Spray or Atmospheric Pressure Ionization Sources. Positive and Negative Mode.

**Liquid Chromatography/Mass Spectrometry (LC/MS) is fast becoming the preferred tool of liquid chromatographers. It is a powerful analytical technique that combines the resolving power of liquid chromatography with the detection specificity of mass spectrometry.**

**Liquid chromatography (LC) separates the sample components and then introduces them to the mass spectrometer (MS). The MS creates and detects charged ions.**

**The LC/MS data may be used to provide information about the molecular weight, structure, identity and quantity of specific sample components.**

**Sample types range from small pharmaceutical compounds to large proteins.**

**LC/MS is suitable for the analysis of large, polar ionic, thermally unstable and in volatile compounds.**

**LC/MS is suitable for many applications, from pharmaceutical development to environmental analysis.**

**The ability to detect a wide range of compounds has made API techniques popular with scientists in a variety of fields:**
- Molecular Weight Determination
- Combinatorial Chemistry
- Pharmaceutical Applications
- Biochemical Applications
- Clinical Applications
- Food Applications
- Environmental Applications
Electro Spray Ionization

Atmospheric pressure chemical ionization

Figure 1. A schematic of an ESI interface

Figure 2. A schematic of the mechanism of ion formation

Figure 3. A schematic of the components of an APCI source

Figure 4. A more detailed view of the mechanism of APCI