1.6.3 HPLC detectors

Routes of detection that are commonly employed include visible radiation methods (measuring light scattering or refractive index), and absorbance methods (UV or fluorescence spectroscopy and photodiode array (PDA) detection (Snyder 2011, Meyer 2013).

These methods can be extremely useful for detecting certain classes of compounds that either absorb UV or fluoresce. Indeed PDA detectors have been linked to HPLC prior to MS detectors (Vorst *et al.*., 2005, Hanhineva *et al.*., 2008).

Mass detector is just one of many varieties of detector that can be linked to the HPLC or UHPLC. For full structural elucidation, it is a necessary to employ MS and/or NMR spectroscopy detectors. The three principal components found in all varieties of MS are:

An ion source, which can convert gas phase sample molecules into ions.

A mass analyzer, which sorts the ions by their masses by applying electromagnetic fields

A detector, which measures the value of an indicator quantity and thus provides data for calculating the abundances of each ion present (Niessen 1998).

The gathering of MS to basic chromatography will introduce us to highly sensitive analytical techniques.

Back in the middle of the last century the coupling of MS to gas chromatography (MS-GS) was achieved. This was the first step in the way of introduce the till the