

### 1.5.1 Types of chromatography

Paper chromatography (PC).

Gas chromatography (GS).

Thin layer chromatography (TLC).

High performance liquid chromatography (HPLC). (Grob *et al.*, 2004; Skoog, DA *et al.*, 2007).

### 1.6.High-performance liquid chromatography (HPLC)

High-performance liquid chromatography (HPLC) is an chromatographic technique used to separate a mixture of components on the bases of the time each component needed to pass through a stationary phase when carried through it by a suitable mobile phase; nowadays HPLC is used extensively in pharmaceutical industry with the purpose to obtain qualitative, quantitative data about the composition of drugs or to purify each individual component of the mixture. (Gopu C *et al.*, 2008).

Mikhail Tswett, a Russian botanist is the first scientist used chromatography to separate plant pigments. (Tswett, M. S. 1906)

HPLC system mainly depends on three components

The stationary phase, The mobile phase and The analyte. (Liu Y. eatal,2006).

**The stationary phase** usually placed in the column which is usually made of inert materials (stainless steel), depending on the polarity of sample; stationary phase is either 'normal phase' or 'reserved phase'. ( William T. Cooper,2006; Akul Mehta,2013).