

Liquid Chromatography

- 1. Introduction and Column Packing Material**
 - 2. Retention Mechanisms in Liquid Chromatography**
 - 3. Method Development**
 - 4. Column Preparation**
 - 5. General Instrumental aspects**
 - 6. Detectors**
- (Chapter 4 and 5 in The essence of chromatography)**

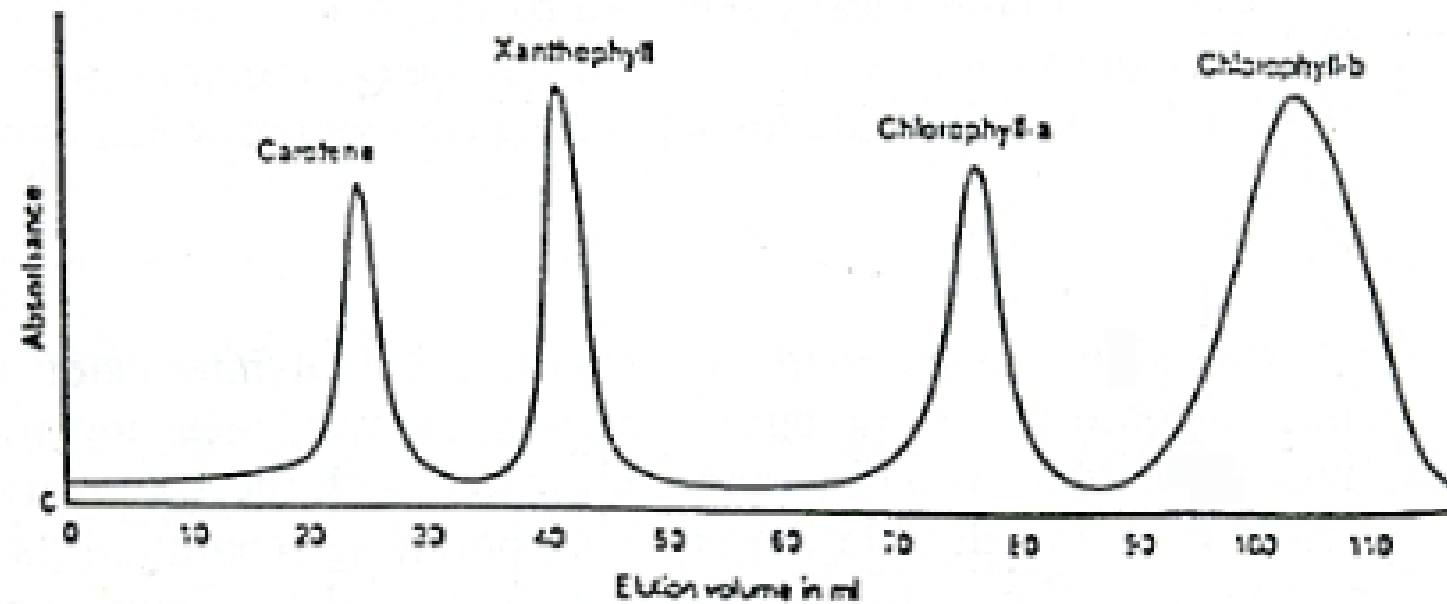
E. Low- and High-performance liquid chromatography

1. Many types of liquid chromatography are available based on different stationary phase and mobile phase combinations. Each type of liquid chromatography may be further characterized on its overall efficiency, or performance.

2. Low-performance liquid chromatography is a term used to describe LC methods which used large, non-rigid materials (i.e., particles > 40 μm in diameter). The use of such a support give rise to poor system efficiencies and large plate heights. This produces the following characteristics:

- (a) Broad peaks, poor limits of detection**
- (b) Long separation times**
- (c) Low operating pressures and flow-rates**

3. A typical separation obtained using low-performance liquid chromatography is shown below.



4. An example of the equipment used in performing low-performance liquid chromatography is a packed bed column is shown. In this format, low-performance liquid chromatography is also called column chromatography.

