

high performance liquid chromatography (HPLC)

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A very sensitive and accurate analytical technique for analyzing mixtures, usually preferred methods HPLC over other high-performance liquid chromatography methods. Quantitative analysis so that we obtain an accurate qualitative separation of the components of the desired mixture. Identify it. This technique is often used in biochemistry and chemistry. Analytical to separate, identify, and quantify compounds in a single mixture.

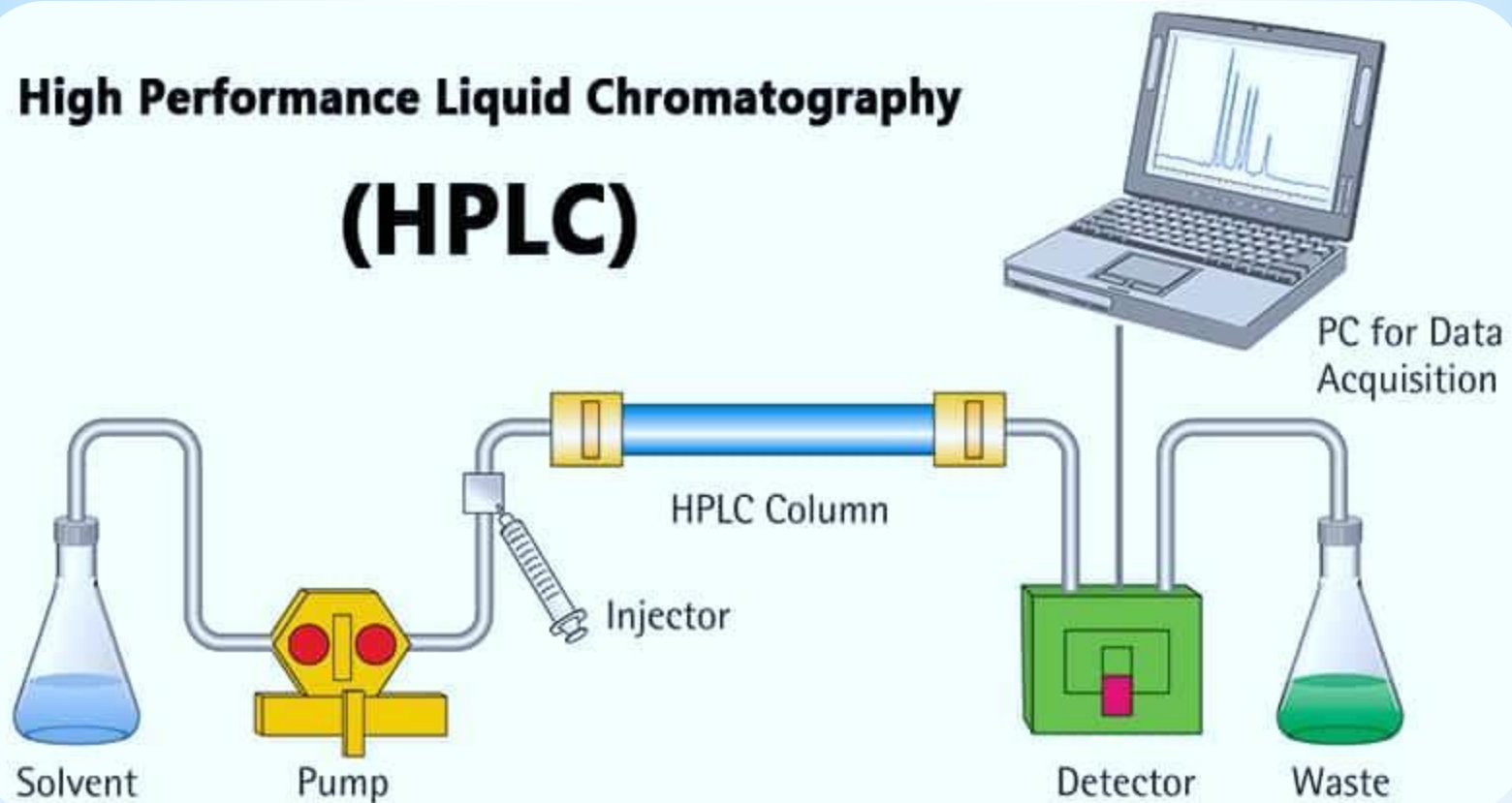
تقنية تحليلية حساسة جدا ودقيقة لتحليل المخاليط، وعادة تفضل طرق على الطرق المتبعة HPLC كروماتوغرافيا السائل ذات الأداء العالي الأخرى في التحليل الكمي بحيث نحصل على فصل نوعي دقيق لمكونات المزيج المراد التعرف عليه وغالبا ما تستخدم هذه التقنية في كيمياء الحيوية والكيمياء التحليلية لفصل وتحديد، وقياس المركبات في مخلوط واحد.

List of plants used in medicinal herbs

- *Medicago sativa* البرسيم
- *Momordica charantia* القرع المر
- *Apium graveolens* الكرفس
- *Apium graveolens* البابونج
- *Larrea tridentata* البلوط
- *Capsicum frutescens* الفلفل الحار
- *Syzygium aromaticum* القرنفل
- *foenum-graecum* الحلبة
- *Rosmarinus officinalis* اكليل جبل
- *Allium sativum* ثوم



High Performance Liquid Chromatography (HPLC)



Solvent

Pump

Injector

HPLC Column

Detector

Waste

PC for Data Acquisition

Solvent

Pump

Injector

HPLC Column

Detector

Waste

PC for Data Acquisition

COMPOSITION OF A LIQUID CHROMATOGRAPH SYSTEM

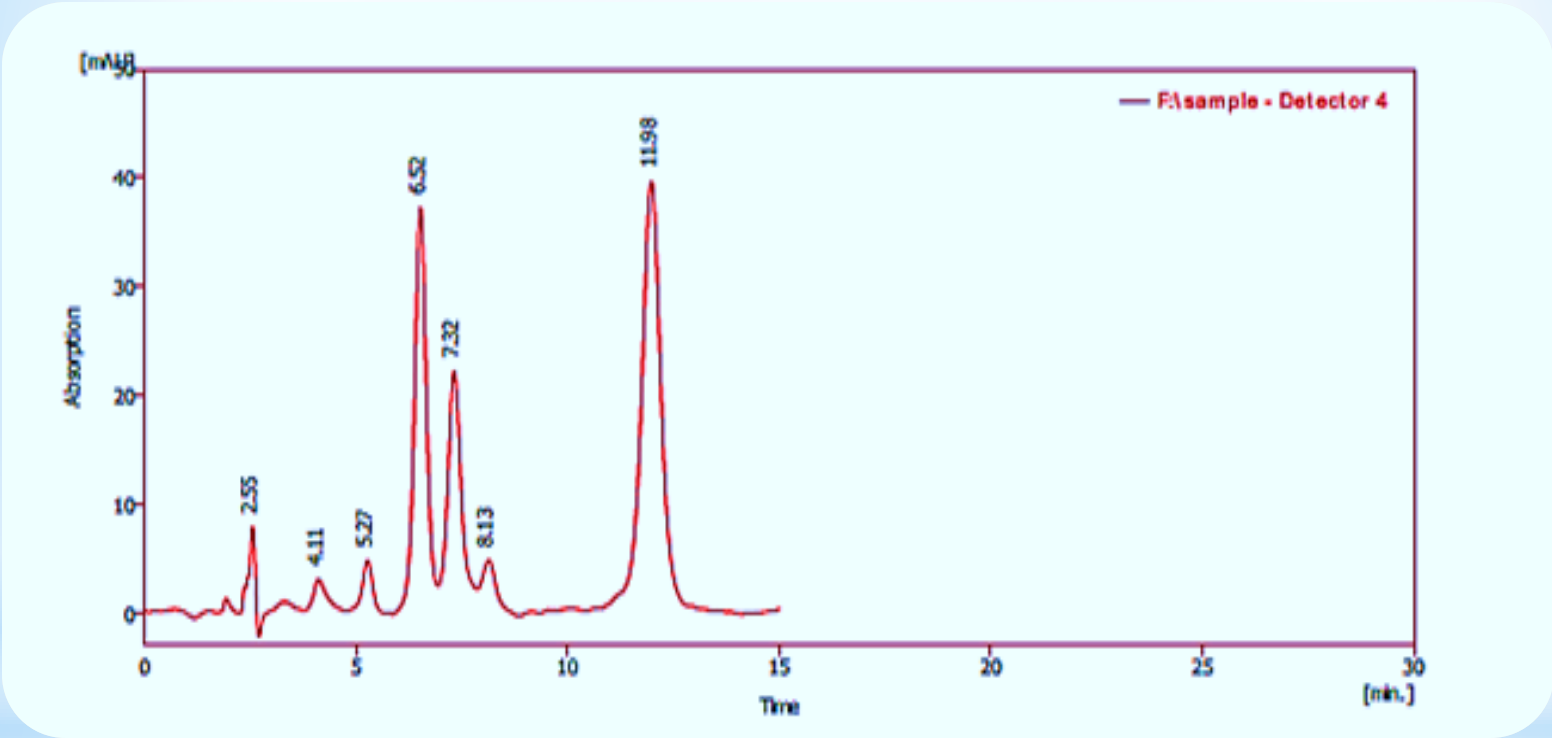
- 1.Solvent
- 2.Solvent Delivery System (Pump)
- 3.Injector
- 4.Sample
- 5.Column
- 6.Detectors (Diode Array)
- 7.Waste Collector
- 8.Recorder (Data)

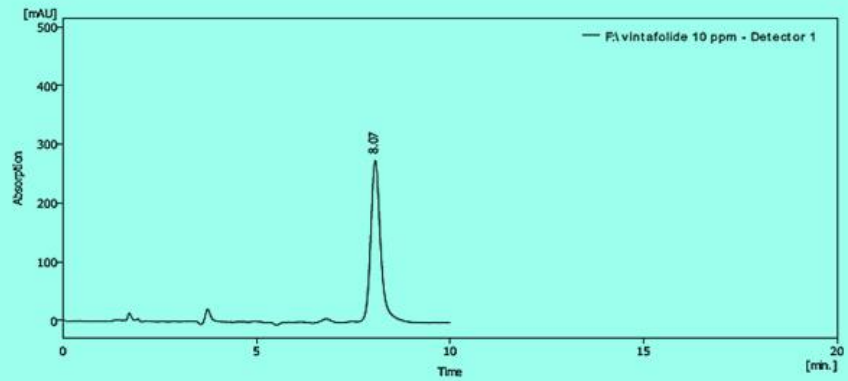
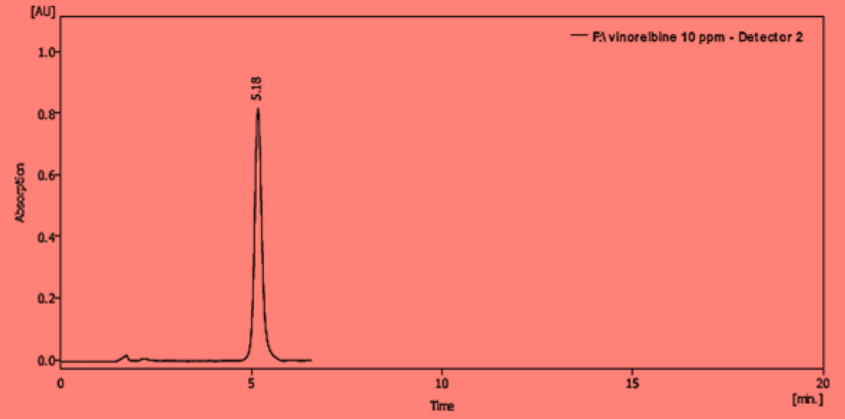
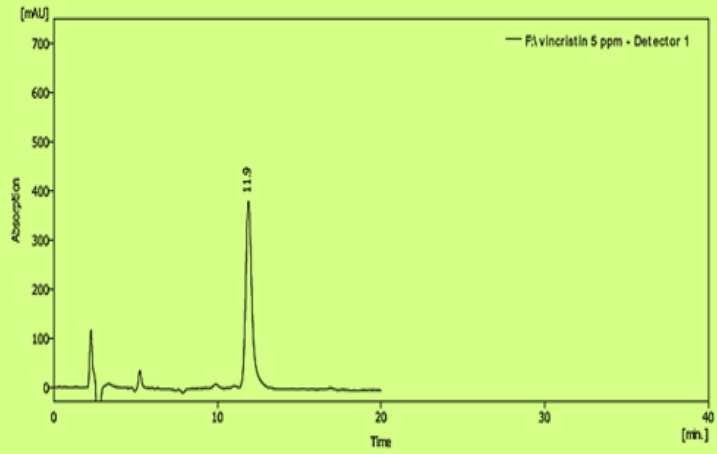
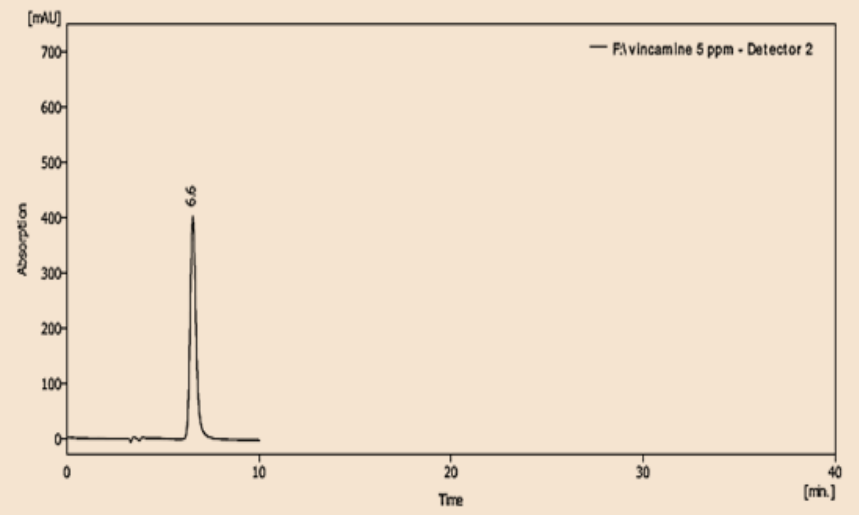
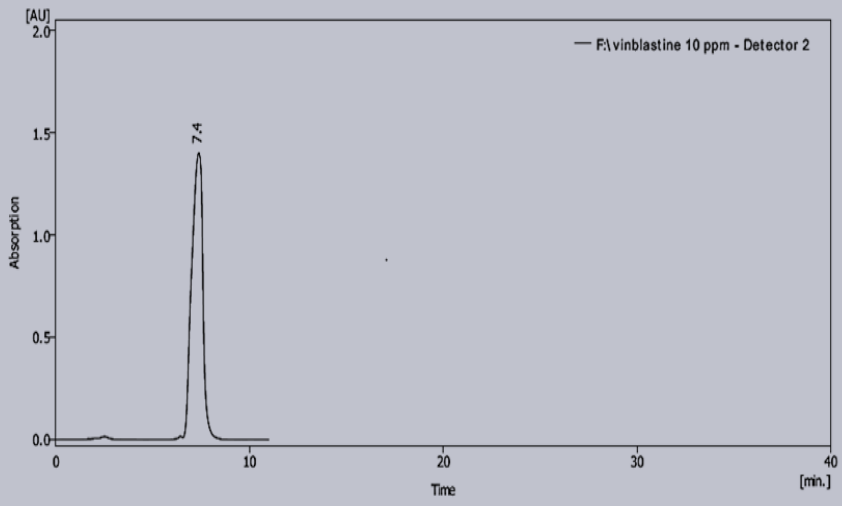
How does HPLC work?

This method is considered one of the most important methods of chromatographic separation of liquids, in which the static medium is in the form of minute-sized particles and the moving medium (liquid) is pushed through the column filled with the static medium using a pump at specific pressures. To a few micrometers only.

It has already been possible to obtain different velocities of flow using columns filled with particles with a radius of up to 5 micrometers. In this way, it is possible to separate compounds that are difficult to volatilize or those that are affected by temperature. It is possible in this method by using fine particles of a solid substance that have the property of adsorption as a static medium. The materials have the property of ion exchange, as well as gels with specified distances. It is also possible to use a liquid loaded on fine particles of a solid substance.

Exmple





A hand in a black nitrile glove holds a glass Erlenmeyer flask containing a vibrant blue liquid. The background is a blurred laboratory scene with various glassware, including beakers and flasks, some containing liquids of different colors like orange and purple. The lighting is dramatic, with a blue tint on the left and a purple/pink tint on the right.

Thank you