

9.2.2.2 Apparatus in Planar Chromatography

Spotting Device

The syringe or micropipet used to deliver a fixed volume of sample as a spot or streak to the paper or thin-layer media at the origin.

Elution Chamber (Developing Chamber)

A closed container, the purpose of which is to enclose the media used as well as the mobile phase to maintain a constant environment in the vapor phase.

Sandwich Chamber

A chamber in which the walls are close enough to the paper or plate to provide a relatively fast equilibration.

Ascending Elution (Ascending Development)

A mode of operation in which the paper or plate is in a vertical or slanted position and the mobile phase is supplied to its lower edge; the upward movement depends on capillary action.

Horizontal Elution (Horizontal Development)

A mode of operation in which the paper or plate is in a horizontal position and the mobile-phase movement along the plane depends on capillary action.

Descending Elution (Descending Development)

A mode of operation in which the mobile phase is supplied to the upper edge of the paper or plate and the downward movement is governed mainly by gravity.

Radial Elution (Radial Development) or Circular Elution (Circular Development)

A mode of operation in which the sample is spotted at a point source at or near the middle of the plane and is carried outward in a circle by the mobile phase, also applied at that place.

Anticircular Elution (Anticircular Development)

The opposite of *Radial Elution* or *Circular Elution*. Here the sample as well as the mobile phase is applied at the periphery of a circle and both move towards the center.

Chamber Saturation (Saturated Development)

This expression refers to the uniform distribution of the mobile phase vapour through the elution chamber prior to chromatography.

Unsaturated Elution (Unsaturated Development)

This expression refers to chromatography in an elution chamber without attaining chamber saturation.

Equilibration

The expression refers to the level of saturation of the chromatographic bed by the mobile-phase vapor prior to chromatography.

Visualization Chamber

A device in which the planar media may be viewed under controlled-wavelength light, perhaps after spraying with chemical reagents to render the separated components as visible spots under specified conditions.

Densitometer

A device which allows portions of the developed paper or thin-layer media to be scanned with a beam of light of a specified wavelength for measurements of UV or visible light absorption or fluorescence, providing values which can be used for the quantitation of the separated compounds.