

37 Thin-layer chromatography – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	中文	Write it 3 times (English)
Chromatography	色谱	_____
stationary phase	固定相	_____
mobile phase	流动相	_____
thin-layer chromatography	薄层色谱	_____
baseline	基线	_____
solvent front	溶剂前沿	_____

Recall

Chromatography 色谱 separates a mixture using two phases —one that stays still and one that moves.

New ideas

Read these first, then do the Practice.

■ 1 The two phases

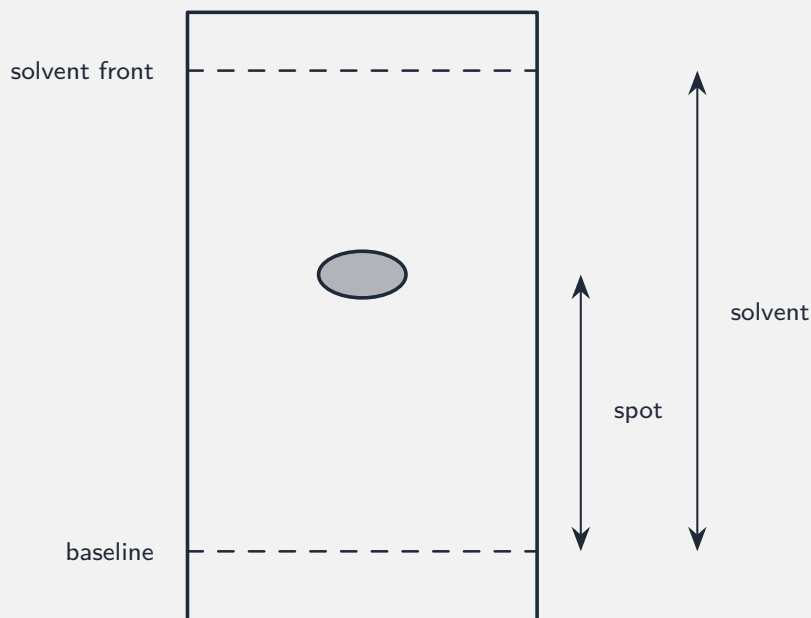
stationary phase
stays still

mobile phase
moves (the solvent)

- the **stationary phase** 固定相 stays still (e.g. on a TLC plate);

- the **mobile phase** 流动相 moves (a solvent travelling up the plate).

■ 2 A TLC plate



In **thin-layer chromatography** 薄层色谱 (TLC), spots are placed on the **baseline** 基线; the solvent rises to the **solvent front** 溶剂前沿, carrying each substance a different distance.

Watch out: every method has a *stationary* phase (stays still) and a *mobile* phase (moves). A substance separates by how strongly it sticks to the stationary phase versus how well it dissolves in the mobile phase.

Practice

Try these in order.

37.1 What does *chromatography* separate? [1]

37.2 Which phase stays still? [1]

37.3 Which phase moves? [1]

37.4 Where are the spots placed on a TLC plate? [1]

37.5 What is the highest level the solvent reaches called? [1]

37.6 Challenge. On a TLC plate, two substances travel *different* distances up the plate. Explain why, in terms of the two phases. [2]
