

# 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.

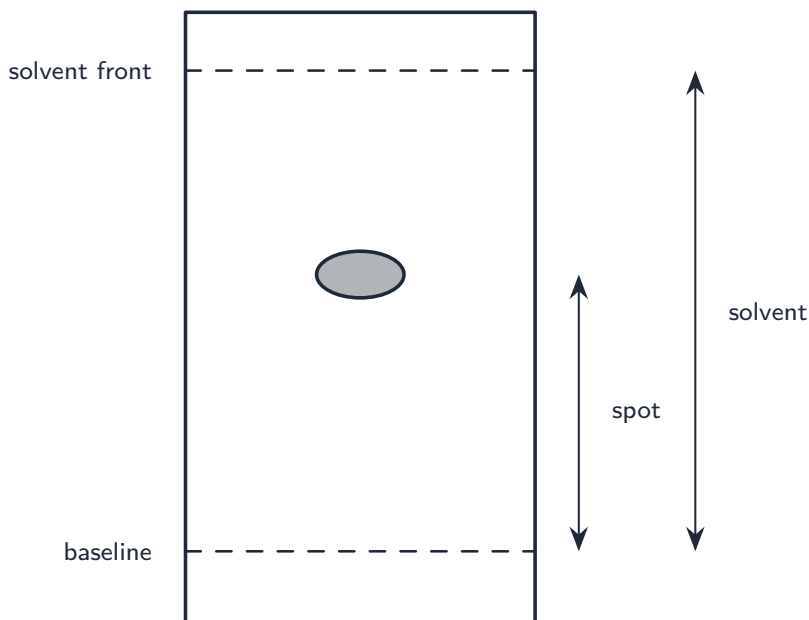
### ■ 1 The two phases

**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

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Try these in order.

**37.1** What does *chromatography* separate? [1]

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**37.2** Which phase stays still? [1]

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**37.3** Which phase moves? [1]

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

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

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

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