

“You have been asked to do the official drug testing for the 100 metres final at the London Olympic Games. You will be using chromatography to analyse ‘urine’ samples to find out which athlete has taken the potentially illegal performance enhancer... caffeine”

Screening the Samples

1. Remove 1ml of each sample, (Fig. 1). Place each into separate small vials and label them (Fig. 6).



4. Let the spots dry and place the plate into the TLC tank. Put on the lid and leave for 8 minutes (Fig.4).

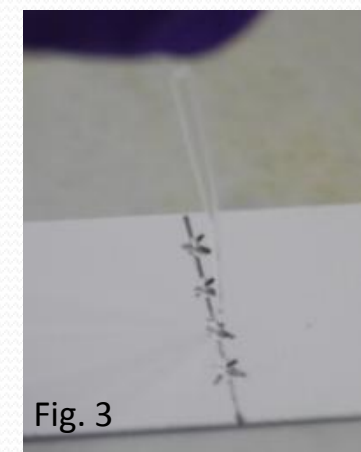


5. Take the plate out and place it onto filter paper, mark the top of the solution line, and leave to dry for a minute (Fig. 4).

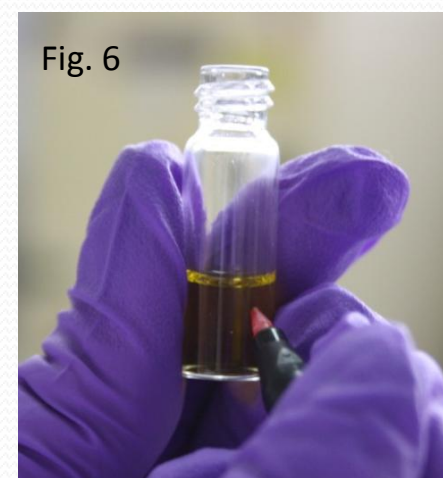
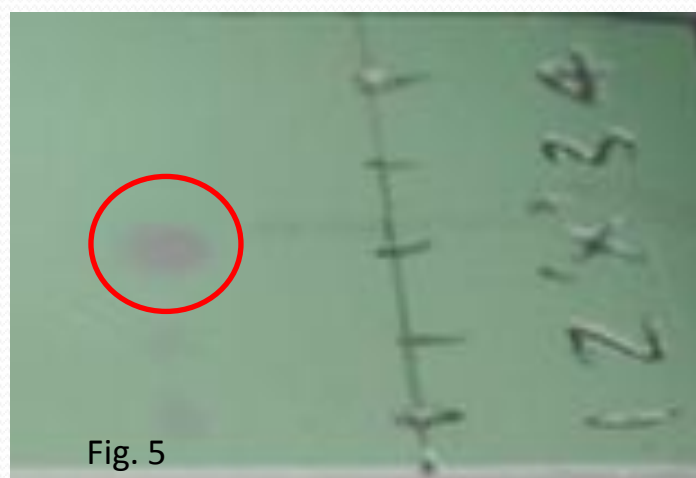


2. Measure 2cm up from the bottom of the TLC strip and draw a faint pencil line across. Make four gentle marks (see Fig. 2)

3. Use a capillary tube to spot the sample from the vials onto the marks by holding the top of the tube whilst gently touching a mark (roughly 3 mm across) on the TLC plate. Repeat this 3 times (Fig. 3).



6. Place the plate under the UV light and look for any visible spots (Fig. 5). Draw round the spot with pencil.



7. Once everyone in your team has identified their contaminated sample (Fig. 7), proceed to the 2nd part.