

C2 Analysing Substances Quiz

1. What is the purpose of gas chromatography?

To separate substances in mixtures

2. What information does the molecular ion peak provide?

Relative formula mass of a compound (Mr)

3. Give two reasons for and two against using instrumental methods for analysis.

They are quicker and more accurate than lab techniques and can detect smaller quantities. They take special training to use; results can only be interpreted by comparison with data from known substances

4. Describe how paper chromatography works.

Place pencil line 1cm from paper base (pencil will not smudge). Place ink sample on pencil line and place paper in water. Careful that the water level is below the pencil line. Wait for the water to rise up the paper. Water is a solvent which will dissolve the solute (ink). Ink that dissolves well will travel further up the paper

5. Describe how gas chromatography works.

Sample is injected and vaporised. Sample is carried by a carrier gas through the column packed with a solid. Sample is separated inside column as substances travel through the column at different speeds (time taken to travel is called the retention time). Substances arrive at detector which matches the retention time against a known database

6. Why is it important to identify food additives in foods?

To check that they are safe to consume.

7. When a blood sample is taken from an athlete, it is split into 2 portions and tested in different labels. Why?

To avoid bias and improve reliability

8. Give two advantages of gas chromatography over paper chromatography.

Faster, more accurate, works with smaller amounts

9. How do you interpret a paper chromatogram?

Compare the number of dots and the level at which they appear to that of a known substances