



CHEMISTRY ONLINE
— **TUITION** —

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CHEMISTRY

ORGANIC CHEMISTRY II

Level & Board	AQA (A-LEVEL)
TOPIC:	CHROMATOGRAPHY
PAPER TYPE:	QUESTION PAPER - 3
TOTAL QUESTIONS	10
TOTAL MARKS	/26

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Chromatography - 3

1. How does GCMS (Gas chromatography/Mass spectrometry) work?

(4)

2. What are the basic principles of all kinds of chromatography?

(2)

3. How do you calculate the R_f value?

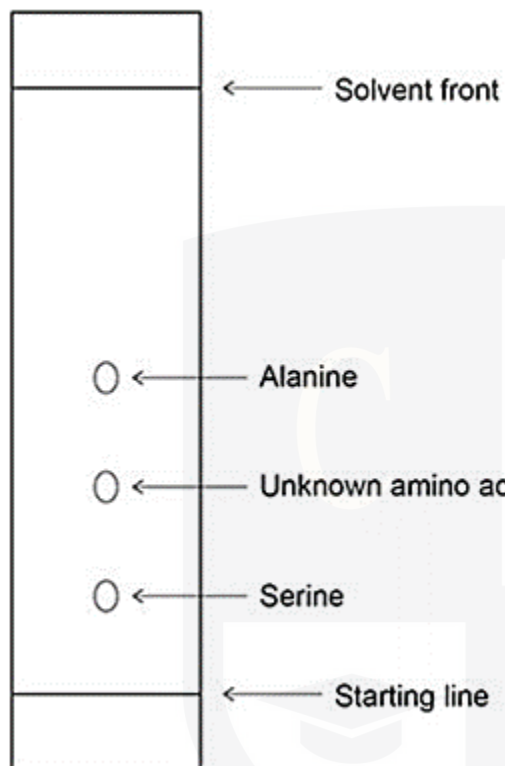
(2)

4. The protein fibroin can be broken down into amino acids using an enzyme.

(a) A student uses thin-layer chromatography (TLC) to identify these amino acids.

The student identifies two of the amino acids as alanine and serine.

Use the figure below to calculate the R_f value of the unknown amino acid.



Show your working.

Amino acid	R_f value
tyrosine	0.25
glycine	0.34
valine	0.64
leucine	0.73

Use your R_f value and the table below to identify the unknown amino acid.

I am Sorry !!!!!

(2)

(b) The amino acids cannot be seen as they move during the experiment.

State how the amino acids can be made visible at the end of the experiment.

(1)

(c) State why each amino acid has a different R_f value.

(1)

5. Which one of an alcohol or an aldehyde have a shortest retention time by column chromatography?

(2)

6. What are the advantages of GLC (gas-liquid chromatography)? Give uses.

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(3)

7. What is the mobile phase in gas-liquid chromatography?

(1)

8. What is the stationary phase in gas-liquid chromatography?

(1)

9. Draw a diagram of column chromatography.

(4)

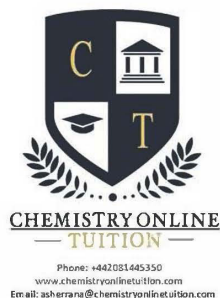
10. What are the advantages of column chromatography?

(3)

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DR. ASHAR RANA



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- Tutoring students in UK and worldwide since 2008
- Chemistry, Physics, and Math's Tutor

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