

Alcohols & Carboxylic Acids

Mark Scheme 2

Level	IGCSE
Subject	Chemistry
Exam Board	CIE
Topic	Organic Chemistry
Sub-Topic	Alcohols & Carboxylic Acids
Paper Type	Alternative to Practical
Booklet	Mark Scheme 2

Time Allowed: 42 minutes

Score: /35

Percentage: /100

- 1 (a) funnel (1) [1]
- (b) to move products through the apparatus / owtte e.g. let the gases go out (1) [1]
- (c) (i) limewater (1)
to detect carbon dioxide (1) [2]
- (ii) so gas bubbles through liquid (1) [1]
- (d) condensation / drops (1) water (1) [2]
allow: black deposit (1) soot / carbon (1)

- 2 (a) thermometer readings correct (3), -1 for any incorrect
methanol 25 28 3
ethanol 26 39 13
propanol 23 46 23
butanol 24 58 34
temperature rises correct (1) [4]
- (b) points plotted correctly $\pm 1/2$ small square (3)
straight line drawn with a ruler (1) [4]
- (c) value from graph (1) unit (1) 44°C
extrapolation shown on grid (1) [3]
- (d) temperature rises would be greater/faster/quicker (1)
copper is a good conductor (1) [2]

[Total: 13]

3 (a)	Boxes labelled clockwise: Condenser (1) Beaker (1) <u>Fractionating</u> column (1)	3
(b)	i underneath flask (1)	1
(c)	Fractional (1) distillation (1)	2

- 4 (a) to prevent air / oxygen / bacteria entering jar (1) [1]
- (b) pestle and / or mortar (1) [1]
- (c) diagram of funnel and filter paper (1) labelled (1) [2]
- (d) yeast would not work at high temperatures / kills yeast / denatures enzymes / owtte (1) [1]
allow: kills enzyme
- (e) (i) bubbles / froth (1) [1]
not: gas / CO₂ given off / turns cloudy
- (ii) (collect gas) and measure volume / count bubbles (1)
over certain time interval (1) [2]
allow: one mark for timing until bubbles / reaction stopped
- (f) fractional distillation (1) [1]