## **Carboxylic Acids**

## Mark Scheme 1

Level	IGCSE
Subject	Chemistry
Exam Board	Edexcel IGCSE
Module	Single Award (Paper 2C)
Topic	Organic Chemistry
Sub-Topic	Carboxylic Acids
Booklet	Mark Scheme 1

Time Allowed: 12 minutes

Score: /10

Percentage: /100

## **Grade Boundaries:**

A*	Α	В	С	D	Е	U
>85%	77.5%	70%	60%	55%	50%	<50%

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Question number	Answer	Notes	Marks
1 a	reference to line/curve/temperature /graph/it AND not reached minimum / not constant / not level /not horizontal /still falling /decreasing/changing	Ignore reference to correlation Ignore has not reached zero / x-axis Ignore does not become	1
b	(better) insulator (than glass) OR poor conductor (of heat)	Accept equivalents such as prevents heat from entering / keeps out heat better Allow stops heat escaping / traps heat Reject references to keeping temperature constant Ignore references to breaking glass	1
c i	effervescence / fizzing / bubbles OR colourless solution/liquid formed	Accept carbon dioxide <u>gas</u> Accept gas given off/evolved/formed Ignore identity of gas Accept solid disappears/dissolves Ignore hissing and other sounds	1
ii	Neutralisation	Accept acid-base / acid-alkali	1
	endothermic	M1 and M2 independent Accept answers in either order Do not penalise contradictions such as exothermic and endothermic – this answer is worth 1 mark	1

	uestion number	Answer	Notes	Marks
1	d i	product formulae or names / products (word) above reactants	Horizontal line not needed Ignore formula errors and one or two missing product(s) Ignore curves and intermediates	1
	ii	(approximately) vertical line between reactants and products / between two levels AND labelled $\Delta H$ / energy change / heat change / enthalpy change	Ignore arrowheads on vertical line Ignore sign of $\Delta H$ Mark can be awarded for exothermic reaction Accept 2310 or any other number in place of $\Delta H$	1

Question number	Answer	Notes	Marks
1 (e) i	temperature change = (-)5.5 (°C)	Award M1 for 5.5 anywhere	1
	heat change (= 100 × 4.2 × 5.5) = 2310/2300 (J)	CQ on candidate temperature change, provided other values correct Accept answer in kJ Ignore signs Correct final answer scores 2 2.31 (J) scores 1 mark if M1 not awarded	1
ii	concentration (of vinegar / (ethanoic) acid / CH <sub>3</sub> COOH)	Ignore strength Ignore reference to $M_r$ Accept concentration even if in an incorrect expression	1
		Total	10