

18. Carboxylic acids and derivatives

18.1 Carboxylic acids

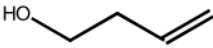
Paper 2

Marking Scheme

Q1.

(b)(i)	reducing agent for C=O AND C=C	1
(b)(ii)	sodium borohydride / NaBH ₄	1

Q2.

(a)(i)		1
(a)(ii)	reducing agent	1

Q3.

(a)(iv)	$2 \text{CH}_3\text{CH}_2\text{COOH} + \text{Ca} \rightarrow (\text{CH}_3\text{CH}_2\text{COO})_2\text{Ca} + \text{H}_2$ M1 H ₂ as product M2 balanced equation based on correct formula of Y	2
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Q4.

(b)(i)	M1 (add) group 1 carbonate / group 1 bicarbonate / Na ₂ CO ₃ / NaHCO ₃ etc. M2 effervescence / fizzing / bubbling	2
(b)(ii)	$3.196 \text{ g Br}_2 = 3.196 / 159.8 (= 0.02 \text{ mol Br}_2)$ AND $2.8(00) / 280 (= 0.01 \text{ mol V})$ 2 alkene / 2 C=C (groups)	1

Q5.

(c)(i)	CO ₂ H / carboxylic acid	1
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Q6.

(f)(i)	$\text{CH}_3\text{CH}_2\text{CO}_2\text{H} + 4[\text{H}] \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{OH} + \text{H}_2\text{O}$	1
(f)(ii)	propan-1-ol ALLOW propan-2-ol as error carried forward from 6f(i)	1

Q7.

(d)	$2\text{HCO}_2\text{H} + \text{Na}_2\text{CO}_3 \rightarrow 2\text{HCO}_2\text{Na} + \text{CO}_2 + \text{H}_2\text{O}$	1
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