

Question 1

1(e)(i)	$ \begin{array}{c} \text{H} \quad \text{O} \\ \quad \\ \text{H} - \text{C} - \text{C} - \text{O} - \text{H} \\ \\ \text{H} \end{array} $	1
1(e)(ii)	sodium ethanoate (1) water (1)	2

Question 2

2(a)(i)	circle around the COOH group	1
2(a)(ii)	$\text{C}_3\text{H}_6\text{O}_3$	1
2(c)	sodium ethanoate (1) water (1)	2

Question 3

3(d)(i)	$ \begin{array}{c} \text{O} \\ \\ - \text{C} - \text{O} - \text{H} \end{array} $	1
3(d)(ii)	carbon dioxide (1) water (1)	2

Question 4

4(a)(i)	structural	1
4(a)(ii)	CH_2O_2	1
4(b)	M1 ethyl methanoate M2 ester link M3 correct displayed formula of ethyl methanoate	3

Question 5

5(a)	same functional group	1
5(b)	carboxylic acids	1
5(c)	$\text{C}_n\text{H}_{2n+1}\text{COOH}$	1
5(g)(i)	sodium propanoate	1
5(g)(ii)	$\text{CH}_3\text{CH}_2\text{COO}^-$	1
5(h)(i)	acid or any named inorganic acid, e.g. phosphoric acid	1
5(h)(ii)	ethyl propanoate	1
5(h)(iii)	M1 displayed formula of any ester linkage (1) M2 correct structure of ethyl propanoate (1)	2


Question 6

6(c)	H	1
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Question 7

7(e)(i)	potassium manganate(VII)	1
7(e)(ii)	reducing agent	1
7(f)(i)	calcium ethanoate	1
7(f)(ii)	$(\text{CH}_3\text{COO})_2\text{Ca}$	1
7(f)(iii)	hydrogen	1

Question 8

8(e)	$\text{C}_n\text{H}_{2n+1}\text{COOH}$	1
8(f)	COOH fully displayed (1)  whole molecule completely correct (1)	2
8(g)(i)	methyl butanoate	1
8(g)(ii)	butanoic acid (1) methanol (1)	2