

Multiple Choice Answers

Q34: B

Multiple Choice Answers

Q36: D

Q38: C

Multiple Choice Answers

Q34: B

Q35: D

3(a)(i)	
3(a)(ii)	yellow precipitate
3(a)(iii)	elimination
3(a)(iv)	
3(b)(i)	$(\text{CH}_3)_2\text{CHOH} + \text{Na} \rightarrow (\text{CH}_3)_2\text{CHO}^-\text{Na}^+ + \frac{1}{2} \text{H}_2$
3(b)(ii)	M1 correct dipole on $\delta^+\text{C}-\text{Br}^{\delta-}$ AND curly arrow from $\text{C}-\text{Br}$ bond to Br M2 intermediate M3 curly arrow from lone pair of $(\text{CH}_3)_2\text{CHO}^-$ to C^+
3(b)(iii)	M1 rate would decrease M2 $\text{C}-\text{Br}$ is weaker (than $\text{C}-\text{Cl}$, so breaks more easily)
3(b)(iv)	$\text{C}_6\text{H}_{14}\text{O} + 9\text{O}_2 \rightarrow 6\text{CO}_2 + 7\text{H}_2\text{O}$

9(a)	M1: (basicity linked to) ability of lone pair / p-orbital to AND accept / coordinate with a proton / H^+ M2: (lone pair of) electrons on N is delocalised into $\text{C}=\text{O}$ group (and make amides neutral)
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9(b)(i)	M1: M M2: N
9(b)(ii)	LiAlH_4
9(c)	ketone / carbonyl AND secondary / 2°
9(d)(i)	curly arrow 1: from O lone pair to C atom (in $\text{C}=\text{O}$) curly arrow 2: from $\text{C}=\text{O}$ bond to the right-hand O atom in $\text{O}=\text{O}$ curly arrow 3: from $\text{O}=\text{O}$ bond to O^+

9(d)(ii)	
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7(a)	M1: Q $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{CHO}$ M2: AND
7(b)(i)	T $\text{CH}_3\text{CH}_2\text{CH}_2\text{COCH}_3$ AND V $(\text{CH}_3)_2\text{CHCOCH}_3$
7(b)(ii)	- yellow solid $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$ OR $(\text{CH}_3)_2\text{CHCOOH}$ CHI_3 Any two [1], all three [2]
7(c)(i)	S $(\text{CH}_3)_3\text{CCHO}$

7(c)(ii)	U $\text{CH}_3\text{CH}_2\text{COCH}_2\text{CH}_3$
7(c)(iii)	triplet AND two hydrogen atoms on neighbouring carbon atoms
7(c)(iv)	TMS / tetramethylsilane / $\text{Si}(\text{CH}_3)_4$
7(d)	4 3 5 3 Any two [1], all four [2]