Practice Question Set For A-Level
Subject : Chemistry
Paper-2 Topic:Aldehydes & ketones

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Exam Preparation and Free Resources

Name of the Student:_____
Max. Marks :19 Marks **Time :19 Minutes**

Mark Schemes

Q1.

A

2-hydroxy-2,3-dimethylbutanenitrile

[1]

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Q2.

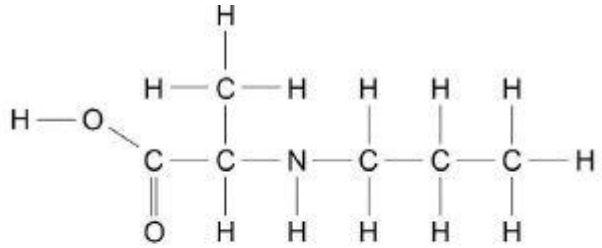
(a) One circled C atom only – The C attached to CH_3/C=O/ H and NH

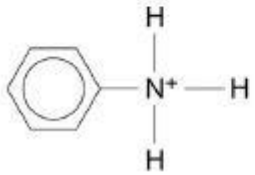
1

(b) Two ticks only for amine and amide

1

(c)

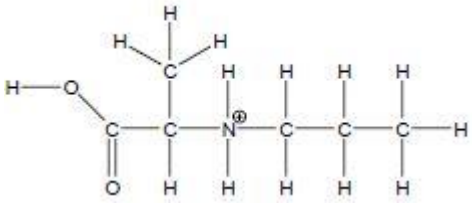




M1 *for choosing the correct bond to hydrolyse*

M2 *and* ***M3*** *for the correct structures of the products*

Allow protonated amino acid for M2



Allow $C_6H_5NH_3^+$ *or + outside a square bracket*

3

(d) **M1** Enzyme has an <u>active site</u>

1

M2

The G-Enantiomer / Enzyme has the correct stereo chemistry / stereospecific

Or

The G-Enantiomer / Enzyme has the complementary shape

For M2 allow opposite argument for F-Enantiomer

1

[7]

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Q3.

(a) filter / decant

1

dissolve in minimum vol

allow *small volume*

allow *to make saturated solution*

not *warm*

Ignore *hot filtration*

1

of hot solvent

1

cool / leave (to crystallise) **AND** filter (under reduced pressure)

1

Wash with cold solvent/water, and dry (with method)

1

(b) **M1** toxic / poisonous

allow *can produce toxic fumes/gas / corrosive*

1

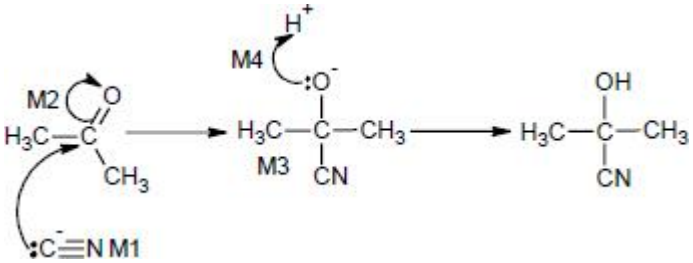
M2 HCN weak / [CN^-] too low **ORA**

allow *KCN dissociates to provide CN^-/nucleophile*

allow *KCN dissociates better/more than HCN*

1

(c)



M1 cyanide ion with lone pair on C and negative charge and curly arrow from lone pair to C of C=O

not *if K−CN bond shown breaking*

1

M2 Curly arrow from = to O

not *if dipole incorrect*

1

M3 intermediate anion

new bond must be to C of CN

1

M4 curly arrow from lone pair on O to H^+

allow *curly arrow to H of HCN*

1

[11]

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