Practice Question Set For A-Level
Subject : Chemistry
Paper-2 Topic: Alcohols

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Name of the Student:_____
Max. Marks : 25 Marks **Time : 25 Minutes**

Mark Schemes

Q1.

(a) Reaction 2: NaOH OR KOH **(1)** M1 alcohol (ic) OR ethanol (ic)**(1)** M2

ignore heat

Condition mark linked to correct reagent but award M2 if OH^- or base or alkali mentioned

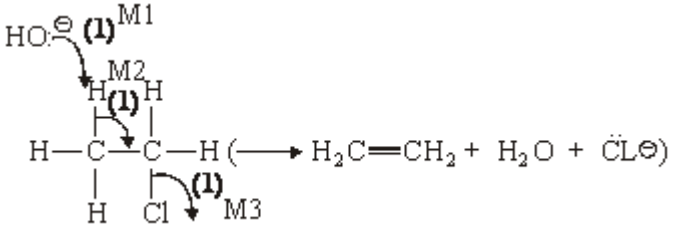
Reaction 3: concentrated H_2SO_4 OR H_3PO_4 M1 **(1)** heat **(1)** M2
OR 150°C - 200°C

Condition mark linked to correct reagent but award M2 if H_2SO_4 or H_3PO_4, but not concentrated

Penalise reagent and condition if dilute H_2SO_4 / H_3PO_4

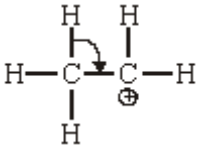
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(b) Mechanism:



Award M3  *independently*

M1 and M2 must be to / from correct places



E1 mechanism possible in which M2

Name: of mechanism = elimination **(1)**

NOT dehydrohalogenation

Ignore "base" OR "nucleophilic" before elimination

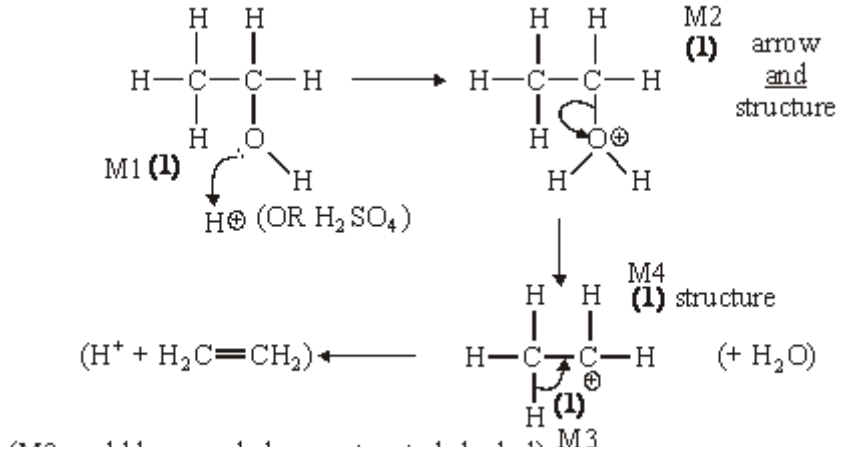
Reason: Reaction 2 has (very) low yield **(1)**

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QoL OR chloroethane has to be made (from ethane)
OR chloroethane is expensive
OR chloroethane is not redily available

(c) Mechanism:

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Name of mechanism = elimination **(1)**

NOT dehydration alone

Reason: Ethanol could come from (fermentation of) renewable

QoL sugars / glucose / carbohydrates / sources ***(1)***

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Q2.

(a) (i) *Reagent:* Hydrogen of H_2 **(1)**
Conditions: Ni (catalyst) (Ignore Pt) **(1)**
100 – 200 °C or heat **(1)**

Not 'high temp' or 'warm'
M1 = 0, M2 = 1 then M3 = 0 max
or M1 = M2 = 0 then M3 = 0
M3 tied to M1. Only award M3 if M1 earned

(ii) *Difference in structure:* soft margarine less hydrogenated or has more C=C bonds or is more unsaturated than hard margarine **(1)**
Difference in melting point: soft has lower melting point **(1)**

Must be comparison

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(b) (i) 3-methylbutan-2-ol **(1)**

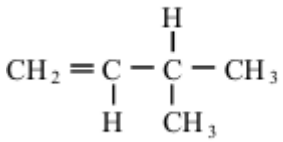
No alternatives

(ii) elimination or dehydration **(1)**

(iii) (c) H_2SO_4 or (c) H_3PO_4 – name or correct formula **(1)**

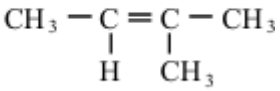
(iv)

Alkene 1



(1)

Alkene 2



(1)

Double bond must be shown
Accept any correct unambiguous structures
if but- 1-ene and but-2-ene offered, allow M2

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