

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

Name of the Student: _____

Max. Marks : 17 Marks

Time : 17 Minutes

Mark Schemes

Q1.

(a) NaOH/KOH

IGNORE OH-

NOT M1 if any mention of acidified/H⁺ in reagents or conditions

1

Reaction 1 = ethanolic/alcoholic **AND** reaction 2 = aqueous

IGNORE temp

NOT ethanoic

1

rxn 1 = base/proton acceptor

1

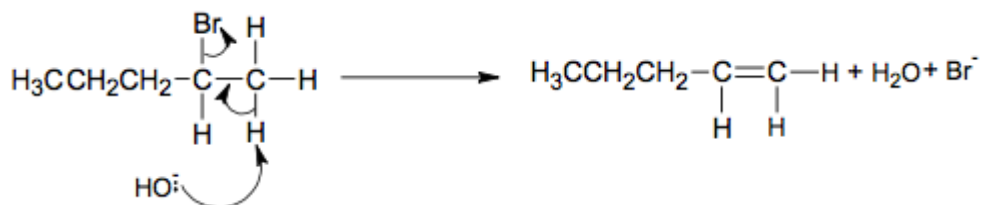
rxn 2 = nucleophile/lone pair donor/electron pair donor

1

(Base) Elimination

NOT nucleophilic

1



M6 must show an arrow from the lone pair on the oxygen of a negatively charged hydroxide ion to a correct H atom

M7 must show an arrow from a correct C-H bond on C adjacent to the C of the C-Br bond to a correct C-C bond. Only award if an arrow is shown attacking the H atom of a correct adjacent C-H bond in **M6**

M8 is independent provided it is from their original molecule and shows curly arrow from C-Br to Br

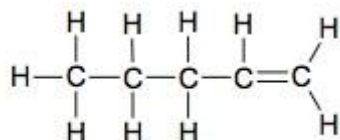
ALLOW correct E1 mechanism

IGNORE incorrect inorganic products

If forming pent-2-ene can award M8 only even if arrows in mechanism correct

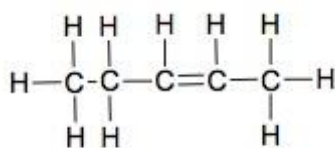
If C chain length or halogen wrong in reactant or product max 2/3

1

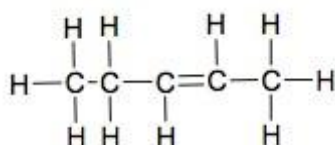


(b)

1

**Z-pent-2-ene**

1

**E-pent-2-ene**

1

If no M2 and M3 **ALLOW** 1 mark if both structures **OR** both names correct

NOT cis and trans

No free rotation around C=C

ALLOW no rotation of C=C

1

2 different atoms/groups on each of the C=C Cs owtte

IGNORE 'functional'

1

- (c) Same volume/amount of AgNO₃(aq) added to same volume/amount/no. of drops of haloalkane (in beaker/flask) in each experiment

Both volume references needed

IGNORE inappropriate volumes

1

Same temp **OR** same [AgNO₃] each time

1

record time to measure sensible observation about the amount of AgCl ppt

e.g. first appearance of ppt / ppt obscures mark / reading on a colorimeter

IGNORE colour of ppt

ALLOW silver mirror

NOT reference to same time if describing method based on timing how long (for ppt to form)

ALLOW gravimetric method based on same time for each experiment

1

Rate = amount/time **OR** proportional to 1/time **OR** reference to shorter
time = higher rate/longer time = lower rate

ALLOW greater mass = higher rate if gravimetric method

1

[17]