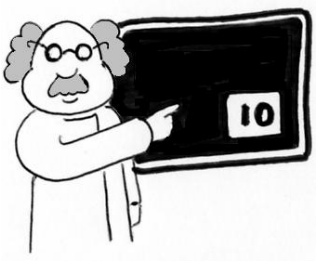
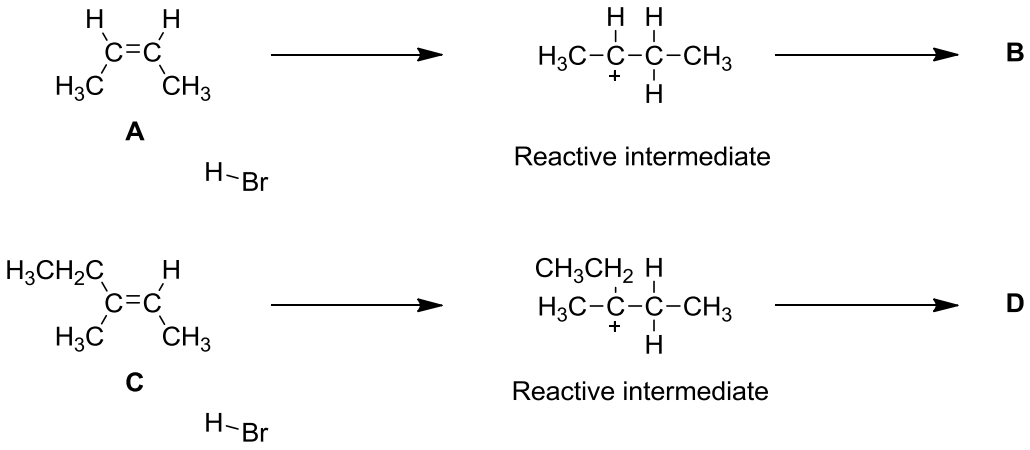


STARTER FOR 10...

5.2.8 Electrophilic addition 1

Consider the following schemes showing the reaction of two different alkenes.



1. Name the geometric isomer A. (1 mark)

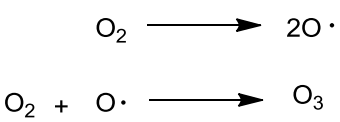
2. Complete the mechanisms by addition of arrows, reacting species and final products. (6 marks)

3. What is the name of the reactive intermediate formed in this mechanism? (1 mark)

4. Name the products formed, B and D. (1 mark)

5. The second reaction proceeds according to Markovnikov's rule.
What is the driving force behind this rule? (1 mark)

(b)

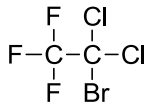


(c) UV light

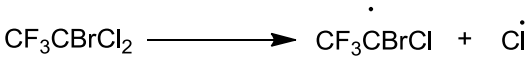
2. Propellants in aerosols/dry cleaning solvents/coolants in fridges/manufacture of foam plastics/fire extinguishers

3.

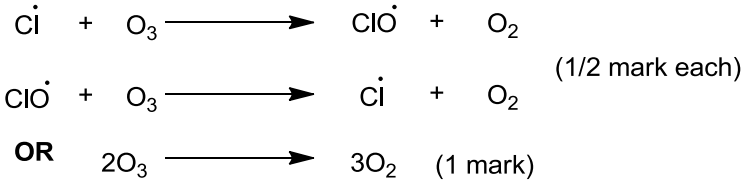
(a)



(b)



(c)



(1/2 mark each)

(1 mark)

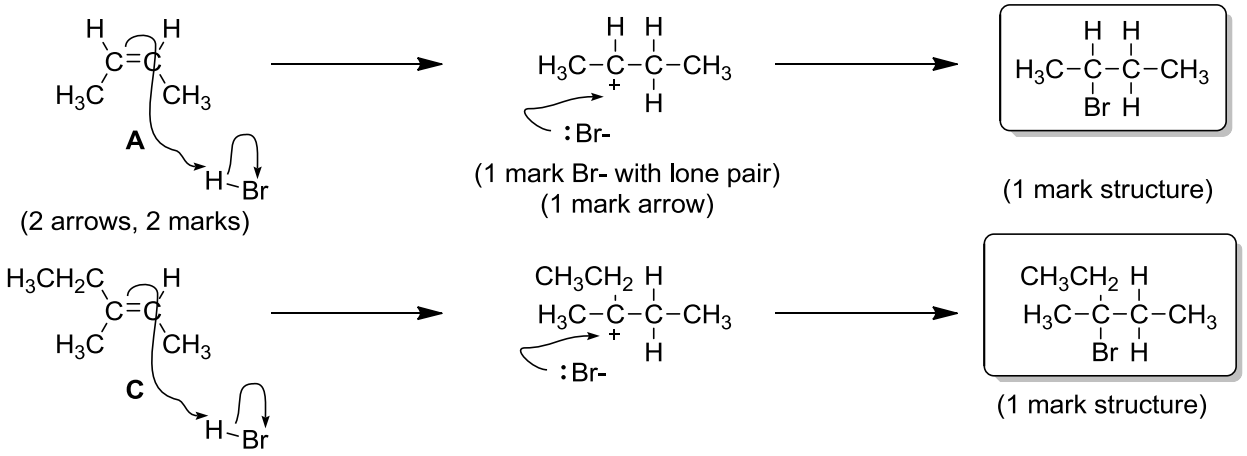
(d) Increased UV exposure/skin cancer

(e) No chlorine/No C-Cl bond

5.2.8

1. But-2-ene

2.



(2 arrows, 2 marks)

(1 mark Br- with lone pair)
(1 mark arrow)

(1 mark structure)

(1 mark arrow showing Markovnikov addition)

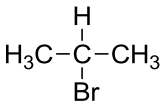
(1 mark structure)

3. Carbocation (1mark)

4. B = 2-bromo-butane, D = 3-bromo-3-methylpentane (½ mark each)

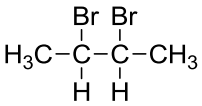
5. Stability of carbocation (1 mark)

5.2.9

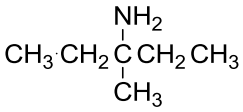


A

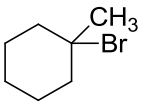
B



C



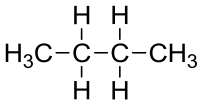
D

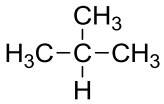


E

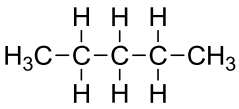
5.2.10

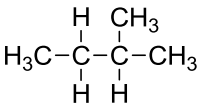
1.

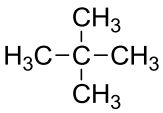




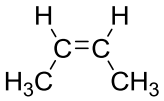
2.



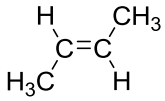




3.

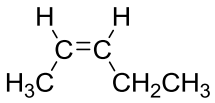


Z



E

4.



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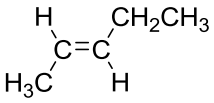
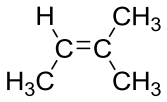
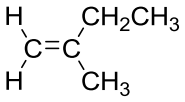


E

5.





5.2.11