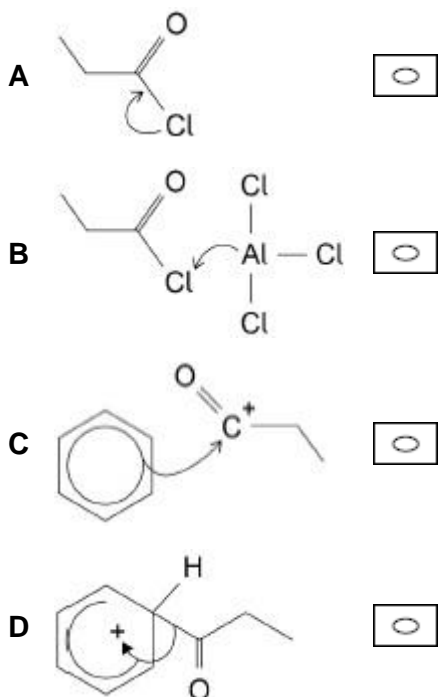


Q1.

The reaction between propanoyl chloride and benzene is an example of acylation.

Which is a correct representation of part of the mechanism of this reaction?



(Total 1 mark)

Q2.

The nitration of benzene uses a nitrating mixture of concentrated nitric acid and concentrated sulfuric acid.



Which statement is correct?

- A** HNO_3 acts as a base.
- B** HNO_3 acts as a catalyst.
- C** HNO_3 acts as an electrophile.
- D** HNO_3 acts as a reducing agent.

(Total 1 mark)

Q3.

Use your understanding of the bonding in benzene to identify the compound that has the most exothermic enthalpy of hydrogenation.



(Total 1 mark)