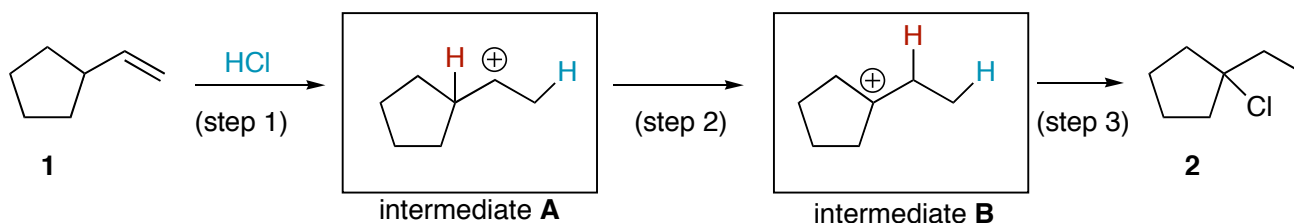


Additional Practice Problems

1. a) In the following reaction of the addition of HCl to vinylcyclopentane (**1**), one of the major products formed is 1-chloro-1-ethylcyclopentane (**2**). The mechanism for this reaction involves the formation of intermediate **A** which is converted into intermediate **B** and finally the product **2** is formed. In the boxes below, draw the structures of the intermediates showing any charges that are present.



- b) The following diagram describes the reaction above. On the diagram, label the position of each compound in the reaction including the starting material **1**, the product **2**, and intermediates **A** and **B**. In addition, graphically show ΔG^\ddagger and ΔG° for this reaction on the diagram using an arrow.

