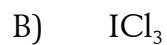


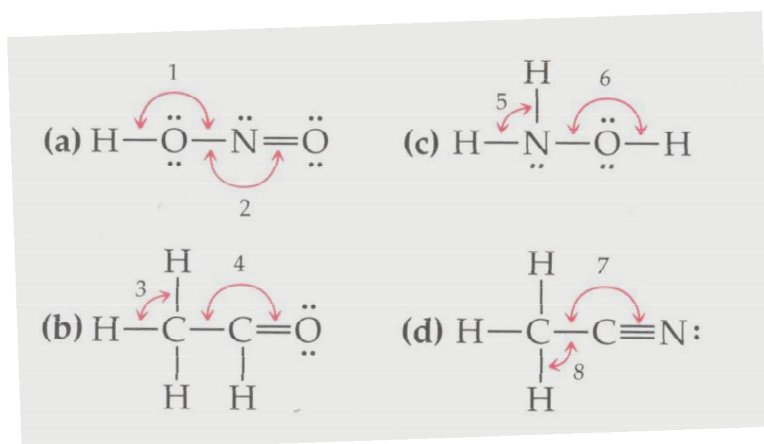
REVIEW QUESTIONS

Chapter 10

1. Draw Lewis structures and determine the molecular geometry of each molecule or ion shown below:



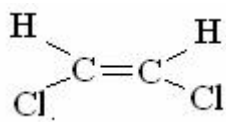
2. Give approximate value for each bond indicated in the molecules shown below:



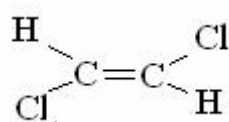
3. Determine if each molecule below would be polar or non-polar. Give a brief explanation for your choices.



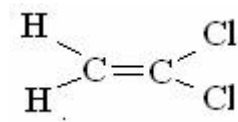
4. Dichloroethylene, $\text{C}_2\text{H}_2\text{Cl}_2$, can have any one of the geometries shown below, each of which is an individual substance.



(A)



(B)

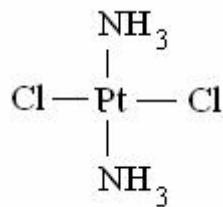


(C)

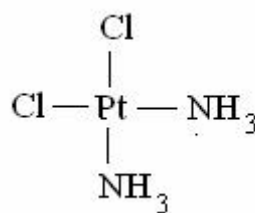
a) What is the geometry around each carbon atom in any of these molecules?

b) Which of these molecules would you expect to be non-polar?

5. There are two compounds with the formula $\text{Pt}(\text{NH}_3)_2\text{Cl}_2$. Structure A is called cisplatin and is used in cancer therapy. Both molecules have square-planar geometry. Which structure do you expect to be polar? Explain.

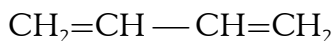


(A)



(B)

6. Butadiene, C_4H_6 , is an important molecule found in natural rubber, and has the following structural formula:



Determine the bond angle around each carbon and sketch the molecule showing its actual structure. Is this molecule planar or not? (Hint: build a model).