

REVIEW QUESTIONS

Chapter 11

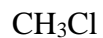
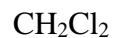
1. For each compound listed below, identify the intermolecular forces present. Use (–) to indicate non-predominant forces and (+) to indicate predominant force.

Compound	Intermolecular Forces		
	Dispersion Force	Dipole-Dipole Force	Hydrogen bonding
Cl ₂			
HBr			
NH ₃			
CH ₃ OCH ₃			
CH ₃ OH			
CH ₃ CH ₃			
FCH ₂ CH ₂ F			
HOCH ₂ CH ₂ OH			
FCH ₂ CH ₂ OH			

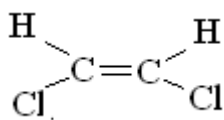
2. Predict the order of decreasing vapor pressure for FCH₂CH₂F, HOCH₂CH₂OH, and FCH₂CH₂OH. Give an explanation for your choices.

_____ > _____ > _____
 greatest lowest

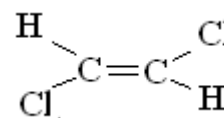
3. Arrange the following substances in order of decreasing boiling point. Explain your answer.



4. Shown below are the two isomers of 1,2-dichloroethene and their respective boiling points:



cis isomer
60.3



trans isomer
47.5

B.p. ($^{\circ}\text{C}$)

Give an explanation for the larger boiling point of the cis isomer.

5. Trimethylamine, $(\text{CH}_3)_3\text{N}$ and propylamine $\text{CH}_3\text{CH}_2\text{CH}_2\text{NH}_2$, have fishy, ammonia-like odors. Explain why propylamine has a lower vapor pressure than trimethylamine.

6. Explain the observed trend in the boiling points of the compounds listed below:

H_2Te	-2°C
H_2Se	-41.5°C
H_2S	-60.7°C
H_2O	$+100^\circ\text{C}$