

Solids and Liquids

Boiling Point (BP) and Melting Point (MP)

Given the substances' MP and BP, predict what phase it is in at room temperature. When we walk into the lab, what will we see? A solid, liquid or gas? An important question to answer first is: What is room temperature (T_{room}) in degrees Celsius (°C)?

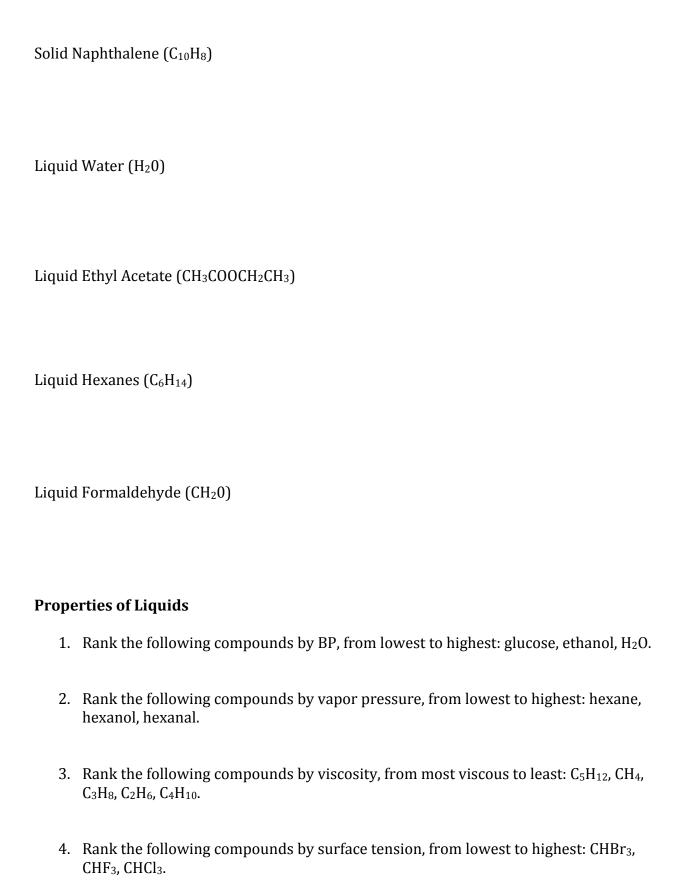
Substance	MP (°C)	BP (°C)	Phase at T _{room}
Mercury	-39	357	
Methane	-187	-161	
Aluminum	660	2519	
Hexane	-95	69	

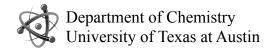
Macroscopic and Molecular Views of Substances

Describe the following substances from the macroscopic and molecular views using words and sketches. You may need to look online for the molecular structure of substances such as naphthalene, ethyl acetate, and formaldehyde. We do not expect you to know these structures.

Solid Diamond (Carbon)		
Solid Table Salt (NaCl)		

Solid Aluminum (Al)





5.		Rank the following compounds by strength of IMFs: C_2H_6 , H_2O , CH_4 , NH_3 . Then say low each of the following solution properties varies with IMF strength.				
	a.	Boiling point				

b. Viscosity

- c. Vapor pressure
- d. Surface tension

Properties of Solids

- 1. What type of solid are each of these? Why do you think this?
 - a. Methane
 - b. Sulfur dioxide
 - c. Iron
 - d. Graphite
 - e. Silicon dioxide
 - f. Calcium Bromide
 - g. Lithium
- 2. Arrange the compounds BaCl₂, diamond, H₂, HF in order of increasing expected MPs.