

Part B True-False

Classify each of these statements as always true, AT; sometimes true, ST; or never true, NT.

- NT 14. Hydrogen bonding is responsible for the polar nature of the water molecule.
- NT 15. The water molecule is a straight molecule.
- AT 16. Detergents lower the surface tension of water by interfering with the formation of hydrogen bonds.
- AT 17. Ice is more dense than water.
- ST 18. Water becomes more dense as it is cooled.

Part C Matching

Match each description in Column B to the correct term in Column A.

- | Column A | Column B |
|------------------------------|--|
| <u>A</u> 19. surface tension | a. inward force that tends to minimize the surface area of a liquid |
| <u>C</u> 20. surfactant | b. intermolecular attraction between a hydrogen atom and a highly electronegative atom such as oxygen, on an adjacent molecule |
| <u>B</u> 21. hydrogen bond | c. a wetting agent (<u>detergents</u>) |

Part D Question

Answer the following in the space provided.

- 22. State whether each of the following properties of water is higher or lower than compounds of similar size and molecular mass.
 - a. vapor pressure
lower
 - b. surface tension
higher