Name:

1. Methanol (CH3OH) is a good hydrogen bond donor and acceptor. The boiling point of methanol is 65°C. Carbon tetrachloride (CCl4) cannot donate or accept hydrogen bonds. The boiling point of carbon tetrachloride is 76°C.

List all the molecular interactions in liquid methanol and in liquid carbon tetrachloride.

Explain why liquid carbon tetrachloride has stronger molecular interactions than liquid methanol.

1. Draw two structures illustrating two different types of hydrogen bonds between a water molecule and a methanol molecule and indicate all distances and angles. In one structure, the water molecule is the HB donor and methanol is an HB acceptor. In the second structure, the molecule water is the HB acceptor and methanol is the HB donor.