1. Which **one** of the following statements regarding compounds A-C is true?
   a. B has the **highest boiling** point and the **highest water solubility**
   b. A is **highest boiling** and has the **highest water solubility**
   c. B is **highest boiling**; C has the **lowest water solubility**
   d. A is **highest boiling**; B has the **highest water solubility**

   ![Chemical Structures]

2. Which functional group is **not** found in the following structure?
   a. alcohol
   b. arene (aromatic)
   c. ester
   d. ketone

   ![Chemical Structure]

3. Which one of the following statements is **true** regarding the structure shown?
   a. The only sp²-hybridized atom is C-2.
   b. The only sp³-hybridized atoms are C-1, C-3, and C-5.
   c. C-2, O-6, and N-4 are all sp² hybridized
   d. C-2 and O-6 are sp²-hybridized; N-4 is sp³ hybridized.

   ![Chemical Structure]

4. The CCC bond angle (relative to the central carbon) in acetone, CH₃COCH₃ is:
   a. ~90°
   b. ~109°
   c. ~120°
   d. ~180°

5. For the 3 pairs of structures shown, which of the following statements is true?
   a. A are the same; B are the same; C are structural isomers
   b. A are stereoisomers; B are the same; C are structural isomers
   c. A are the same; B are stereoisomers; C are stereoisomers
   d. A are stereoisomers; B are stereoisomers; C are structural isomers

   ![Chemical Structures]