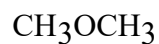


Chem 10123, Quiz 1

January 22, 2020

Name: _____
(Please Print)

1. (3 points) Of the following substances, _____ should be the most soluble in hexane and _____ the most soluble in water. In this aqueous solution, the predominant intermolecular force is _____.



2. (9 points) **SHOW ALL WORK.** Glycerol, $\text{C}_3\text{H}_5(\text{OH})_3$ (molar mass = 92.0) is a non-dissociating, non-volatile liquid that is very soluble in water. Determine the freezing point (in $^\circ\text{C}$) of a glycerol solution that is 29.0 % glycerol by mass. [For H_2O (molar mass = 18.0), $K_f = 1.86 \text{ }^\circ\text{C}/m$]

3. (2 points) _____ is a good example of a common substance that forms micelles when mixed with water. In general, this type of mixture is called a _____ dispersion.
4. (6 points) **SHOW ALL WORK.** A solution containing 7.00 mg of hemoglobin in 5.00 mL of solution at $20.0 \text{ }^\circ\text{C}$ has an osmotic pressure of 0.380 torr. Determine the molar mass of hemoglobin.