Quiz 04 KEY 05 April 2002

21 points (3 points each) Mark your answers on the scantron sheet. You may keep this copy.

1. What is the major product of the reaction of benzylthiol with iodine?

$$Ph \searrow SH \xrightarrow{I_2}$$

2. Rank the following molecules in order of reactivity with a nucleophile.

c)
$$\mathbf{B} > \mathbf{A} > \mathbf{C}$$

3. Which of the following molecules represents the hydrated form of formaldehyde?

4. Which of the following structures is an enamine?

a)
$$Ph \sim N$$
 b) $Ph \sim N(CH_3)_2$

5. Which of the following structures is a hemiacetal?

HO OH O
$$H_3CO$$
 OCH₃
a) H_3C C OCH₃
b) H_3C C OCH₃

6. Which of the following structures is an intermediate in the mechanism for the formation of an imine?

a)
$$\stackrel{\text{OH}}{\longrightarrow}$$
 $\stackrel{\text{OH}}{\longrightarrow}$ $\stackrel{\text{OH}}{\longrightarrow}$

7. What Wittig Reagent (phosphonium ylide) and carbonyl would be best to prepare the following alkene?

$$\begin{array}{c|c} CH_2 & \text{and} & O \\ \hline Ph & PPh_3 & \end{array}$$