CHM 3140 Organic Chemistry I, Dr. Laurie S. Starkey, Cal Poly Pomona Alkene/Alkyne Predict the Products Homework, Part II

Name:

Predict the major product(s) expected for each of the following reactions. Remember to indicate stereochemistry, when appropriate. If no reaction is expected, write NR.

$$\rightarrow$$
 C=CCH₃ \rightarrow Na NH₃

E)
$$C \equiv CCH_3$$
 $H_2 (excess)$ Lindlar's cat.

F)
$$CH_3CH_2C \equiv CH$$
 $\frac{1) \text{ NaNH}_2}{2) \text{ CH}_2I}$

For each of the following reactions, predict the major product(s) and describe the product(s) as either a, b, c, d or e.

- a) a single product with no chiral centers
- **b)** a single meso product
- c) a 1:1 mixture of enantiomers (racemate)
- d) a mixture of diastereomers
- e) a single enantiomer

$$\begin{array}{c}
 & \text{MCPBA} \\
 & \text{OsO}_4
\end{array}$$

$$CH_3 \xrightarrow{H_2 \text{ (excess)}} Pd$$

$$CH_3O$$
 Br_2
 CCl_4

$$\begin{array}{c} O \\ HO \end{array} \begin{array}{c} \hline \\ Pd \end{array}$$

$$CH_3$$
 H_2O
 CH_3 H_2SO_4