Chem 332  
Spring 2011  
Homework #12  
Due 10 a.m. Monday, Feb 21st

1. (10 points) Using any starting materials that contribute three or fewer carbons to the final product, outline a synthetic route for converting A into B.

\[
\begin{align*}
\text{A} & \text{Br} \quad \text{1. Mg} & \text{Ph}_3\text{P} \quad \text{2. O\text{=H}} & \text{B} \\
& & & \text{H}_2 \quad \text{Pd-C} & \\
\end{align*}
\]

2. (10 points) Deduce the structure of D, and draw an arrow-pushing mechanism for its formation.

\[
\begin{align*}
\text{C} & \quad \text{D} \\
\end{align*}
\]

3. (10 points) Draw a detailed arrow-pushing mechanism for the conversion of E to F.

\[
\begin{align*}
\text{Bu}_3\text{Sn-H} & \quad \text{Bu}_3\text{Sn-H} \\
\text{E} & \quad \text{F} \\
\end{align*}
\]