## **Problem Set 11**

1. Draw the specific reagents necessary to accomplish the following five (5) transformations with high levels of regio- and stereochemical control, as appropriate. More than one reaction is involved in each question. Be certain to distinguish the individual steps clearly. Include stoichiometric coefficients of reagents, as well.

A.

B.

(racemic)

C.

(racemic)

$$H_3C$$
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

E.

$$H_3C$$
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$