1. a. (5 pts. ea.) a. Identify whether the reaction is likely to proceed via an  $S_{\rm N}1$  or an  $S_{\rm N}2$  mechanism.

b. (10 pts. each )Predict the organic products for the following reactions. Remember to indicate the stereochemistry of the products using wedge ( ) and dashed bonds ( " ) where appropriate.

2. (10 pts. ea.) Predict the organic products for the following reactions. Remember to indicate the stereochemistry of the products using wedge ( ) and dashed bonds ( """) where appropriate.