WORKSHOP, Chapter 20

Enols and Enolates

1. Give a reasonable mechanism for each of the following reactions, clearly showing all important intermediates and resonance structures, and using curved arrows to show movement of electron pairs.

a.
$$xs \stackrel{O}{\longrightarrow} \frac{HCI, H_2O}{\longrightarrow}$$

b. HO H₂O/EtOH
$$O$$
 OH O O

c. (S)-2-methylcyclohexanone $NaOH, H_2O \rightarrow (\pm)$ -2-methylcyclohexanone

e.
$$\begin{array}{c|c} O & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ & &$$

2. Show how to carry out the following chemical conversions using any necessary organic and inorganic reagents. More than one synthetic step may be required for a synthetic transformation.

3. Devise a synthesis of the following compound.

$$(\pm)$$