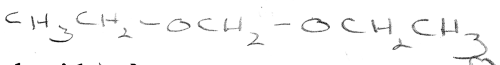
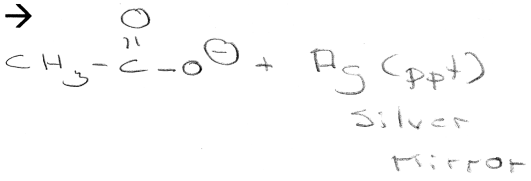
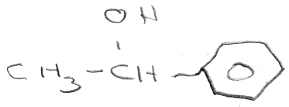
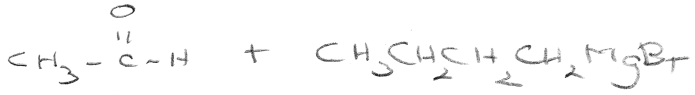
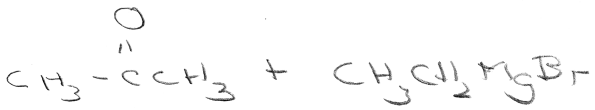
Chapter 18: Aldehydes and Ketones II Worksheet

REACTIONS:

1. formaldehyde + (conc.) NaOH → 
2. acetone + NaCN, H^+ → 
3. methanal + (xs) ethanol, dry HCl → 
4. acetaldehyde + $NH_2NHCONH_2$ (semicarbazide) → 
5. ethanal + alcoholic silver nitrate (Tollen's reagent) → 
6. acetophenone +H_2, Ni → 

SYNTHESIS OF **ALCOHOLS** USING GRIGNARD REAGENTS AND CARBONYL COMPOUNDS:

Draw the structures of the Grignard reagent and the carbonyl compound that can be combined to give the following alcohols.

1. 2-hexanol ← 
2. 3-phenyl-1-propanol ← 
3. 2-methyl-2-butanol ← 

Outline a possible laboratory synthesis of each of the following compounds starting with alcohols of four-carbons or less, benzene, cyclohexanol and any needed inorganic reagents.

1. cyclohexylmethanol