1. Name each of the following compounds.



1. Write a structural formula for each of the following compounds.
	1. benzyl methyl ketone
	2. 2-pentenal
	3. 2-chloro-3-hexanone
	4. 2,3-dimethylpentanal
2. Write an equation for the synthesis of 2-hexanone by
	1. oxidation of an alcohol
	2. hydration of an alkyne
3. Write an equation for the reaction of propanal with each of the following reagents, and name the organic product.
	1. cyanide ion
	2. sodium borohydride
	3. phenylmagnesium bromide, then H3O+
4. Using a Grignard reagent and the appropriate aldehyde or ketone, show how each of the following can be prepared.
	1. 2-phenyl-2-butanol
	2. 2-hexanol
	3. 1-pentene-3-ol
5. Complete the equation for the reaction of



1. Give the structure of each product.



1. Write out the steps for the aldol condensation reaction between the enolate anion of propanal with pentanal.
2. Using **Figure 16.1** on page 462 of your textbook, draw the Fisher projection formulas for the following:
	1. L-ribose
	2. L-arabinose
	3. L-glucose
	4. L-talose
3. Using **Figure 16.1** on page 462 of your textbook, draw the Fisher projection formulas for the following and then convert them to three-dimensional representations.
	1. L-threose
	2. L-erythrose