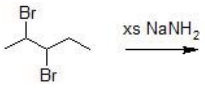
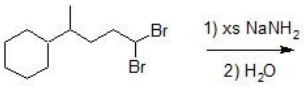
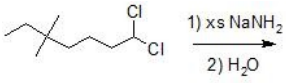
10.11: ADDITIONAL EXERCISES

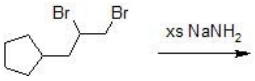
ALKYNE REACTIONS

10-1 Predict the product of these following reactions:

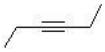
a) 

b) 

c) 

d) 

10-2 Using acetylene as the starting material, show how you would synthesize the following compounds

a) 

b) but-2-yne

c) 

d) 

10-3 Identify the reagents needed to turn hex-1-yne into the following compounds

a) hexane

b) oct-3-yne

c) cis-hept-2-ene

d) trans-hept-2-ene

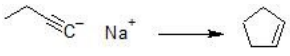
e) 2,2-dibromohexane

f) 1-bromohexene

10-4 Show how you would accomplish the following synthetic transformations.

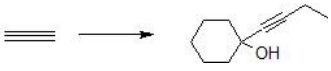
a) 

b) 

c) 

d) 

e) 

f) 

10-5 Deduce the structure of each unknown from the information given.

a) Upon catalytic hydrogenation, unknown **A** yields pentane. Ozonolysis of **A** yields butanoic acid, $HOOC(CH_2)_2CH_3$ and CO_2. Draw the structure of compound **A**

b) Upon catalytic hydrogenation, unknown **B** yields pentane. Ozonolysis of **B** yields acetaldehyde, CH_3CHO, and propionaldehyde, CH_3CH_2CHO.

10-6 Use compound **A** from the previous problem (**10**-**5**) and any additional reagents you may need to synthesize the following compound.